State of California Resources Agency Department of Fish and Game

MARINE REGION

Strategic Plan:

An Ecosystem Approach to Managing California's Diverse Marine Resources



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A Message from the Regional Manager

Last year was momentous for California's marine environment. The International Year of the Ocean focused worldwide and national attention on ocean issues. The Department of Fish and Game's new Marine Region completed its first year amidst major changes, including the reorganization of marine functions into a single organization unit, relocation of our headquarters to the coast, implementation of a team-based structure, and the adoption of an ecosystem approach to marine management—a new philosophy and direction. Legislation, in particular the Marine Life Management Act of 1998, effected the most significant changes to management of California's ocean resources in 50 years. It transferred authority for management of emerging fisheries from the Legislature to the Fish and Game Commission, established requirements for developing fishery management plans, focused on sound science as a basis for management, and emphasized a collaborative approach.

We have a unique opportunity to set a new course for conservation and management of California's marine resources and habitats. Ecosystem management, still a concept in development, is broadening our approach to ocean stewardship and will be fundamental to ensuring sustained, healthy populations and productive habitats into the future. We need to integrate our law enforcement, spill prevention and response, and scientific programs and staff to build an effective team approach to resource protection and management that maximizes the talent, expertise and passion our employees bring to their work. We need to embrace a collaborative approach and to engage our partners to address complex issues, maximize the resources available for solutions, and build on consensus.

The needs and desires of Californians are diverse and changing, and will continue to change as our population grows. It is critical that we find effective ways to reach out to the people of California—to understand their concerns regarding marine management, help them become informed about marine resource issues, involve them in resource decisions, and engage them in stewardship of their marine resources and habitats. Public surveys indicate that protecting the marine environment is one of our top three priorities. The ocean is an integral part of the quality of life that Californians enjoy.

I would like to thank everyone for participating in this strategic planning effort: our Marine Region staff for their commitment, teamwork, and expertise, and our stakeholders, for their interest, involvement and assistance. You provided us with many good ideas, innovative suggestions and sound criticisms. Not all these ideas are reflected in the final set of priorities we have crafted in this plan, but that doesn't mean they are not important. I have asked that all contributions to our strategic planning process be documented and available in our Marine Region offices, for review and for future use.

I especially want to thank the Marine Region Strategic Planning Team, led by Patty Wolf, for their hard work, enthusiasm and commitment to planning, and for their vision and firm belief in our future as leaders in ocean resources stewardship and management.

I'm very proud to share this strategic plan with you.

DeWayne Johnston Marine Region Regional Manager

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Counter-clockwise from lower left: Bob Tasto, Rick Holly, Marija Vojkovich, Rick Klingbeil, Patty Wolf, Peter Sakai, Rob Collins, and Carrie Wilson (Not pictured: Frank Henry, Frank Spear, Dale Watkins, and Farnum Alston).

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Executive Summary

The Marine Region Strategic Plan contains our mission, vision and values, and our goals, objectives, and strategies for addressing the major issues facing the Marine Region and marine resources management as we head into the 21st century.

A total of 12 major issues, which emerged from various meetings and surveys with staff and external stakeholders, are organized into three broad categories. Marine resources management issues include ecosystem management, proactive management, good science/adequate data, habitat, spill prevention and response, and enforcement and education— these issues comprise "What We Do." Our operational issues include Marine Region leadership and effectiveness, funding, and planning—these issues comprise "How We Do It." Finally, issues concerning our stakeholders and partners, and the social and political environment in which we operate, include changing public attitudes, public policy framework, and coordination and outreach—these comprise "With Whom We Do It." Strategic issues, goals, and objectives are listed first in our Summary Plan, and then are combined with strategies to complete our Action Plan.

The Ecosystem Description defines the marine environment in which we manage California's marine resources and fisheries, and the Marine Region Description provides information about our organization.

The process we followed for our strategic planning effort is described, including how the Marine Region Strategic Plan relates to the Department's Strategic Plan. Finally, we address how we intend to proceed with implementation of our strategic plan.

Introduction

"It is not because things are difficult that we do not dare; it is because we do not dare that they are difficult." Seneca

The Marine Region was established in November 1997, as an outgrowth of planning actions taken by the Department of Fish and Game in the mid-1990s to increase its effectiveness (A Vision for the Future 1993; The Strategic Plan 1995). A task force, convened in 1997 by Director Jacqueline E. Schafer and chaired by DeWayne Johnston, developed recommendations for the establishment of a new Marine Region (Marine Region Implementation Plan 1997).

The Marine Region is unique in the Department because of its dual responsibility for both policy and operational issues within the State's marine jurisdiction. It was created to improve marine resources management by incorporating critical law enforcement functions, fisheries and habitat programs, the field activities of the Office of Spill Prevention and Response, environmental review, and water quality monitoring into a single organizational unit. It is designed to allow us to be more effective, inclusive, comprehensive and collaborative in our marine management activities.

In addition to a new consolidation of programs, we have adopted a management approach that takes a broader perspective relative to resource issues and problems. This ecosystem approach considers the values of entire biological communities and habitats, as well as the needs of the public, while ensuring a healthy marine environment. It involves field staff with various areas of expertise in policy development and considers the marine environment on a statewide basis. This approach is different from traditional State marine resources management, which has focused on individual species or fisheries and has been limited in involvement of all entities with an interest and a stake in the future of California's marine resources.

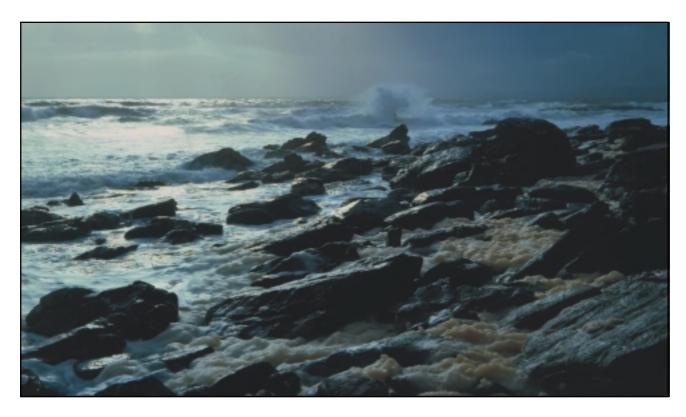
The Marine Region Implementation Plan identified strategic planning as a critical first step. It recognizes the importance of responding to change, and the process itself prepares the organization to think proactively instead of reactively, and to set a new path. For too long, we have been defensive of existing work activities ("we've always done it this way" or "leave it to us, we know what to do"). We have not taken the time to ask the critical questions: What is the business we are in? Where are we now? Where do we want to be? What stands in our way? What are strategies to get there? Also, we have not consistently and broadly consulted our stakeholders for their opinions and concerns. Effective strategic planning requires input from everyone.

A recurring theme in our surveys and focus groups concerned funding. Over the years, revenues have not kept pace with inflation, and commercial landing taxes have seen only minor increases. Although demand for marine management and research has increased, funding levels have been static, resulting in a decline in marine staffing levels over the last 20 years. Additional funding and the ability to manage funds are essential if we are to address new and emerging fisheries and move toward a broad ecosystem approach.

The public comments we received from our surveys and focus groups along the coast, together with recommendations from our Marine Region and Department staff, strongly influenced the direction of this plan. We recognize the value of the relationships we have continued to nourish and are beginning to build through this process. We are committed to continuing the dialogue with all of our stakeholders as we implement the plan's priorities to achieve the vision we all share for California's rich and diverse marine resources.

Our Mission

"To protect, maintain, enhance, and restore California's marine ecosystems for their ecological values and their use and enjoyment by the public."



Our Vision and Values

"Where we stand is not as important as the direction in which we are moving." Oliver Wendel Holmes

Our vision is a clear picture of what our organization will look like after we implement our strategies, when we are working well with our stakeholders and we are achieving our full potential—it is our vision of success. Although our vision includes our mission, it also goes well beyond it. It is a true challenge to have a vision: it requires a commitment to excellence, the courage to pursue it, the willingness to undertake the hard work, and the discipline necessary to reach it.

As times have changed and the population of our State has increased, resource values and uses have also changed. Traditional approaches for identifying and solving issues, while still important, may have limited use in our rapidly evolving world. Issues in the marine environment are more extensive, numerous, comprehensive, and critical than in the past, and they can require different and complex resolutions. This Strategic Plan is intended to aid all of us in finding scientifically-based and collaborative solutions to issues that need immediate and future attention. As issues change, we must be able to respond. We must be flexible in our strategies and solutions, while relying on our basic values and continually moving toward our vision.

Our values define who we are and how we approach our responsibilities. They have emerged from this strategic planning effort as the path to our vision. In the Marine Region, we value:

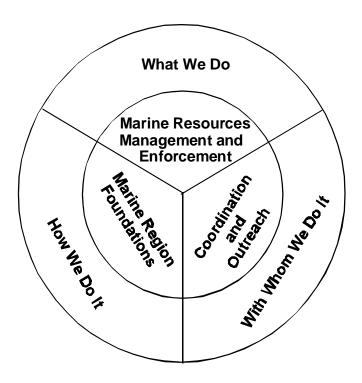
- In ourselves trust, honesty, dedication, commitment, leadership, personal responsibility, expertise, and integrity;
- In our organization vision, excellence, effectiveness, accountability, communication, risk-taking, creativity and innovation, proactive action, support, and teamwork;
- As resource stewards healthy and diverse ecosystems, sustainable resources for present and future generations, sound science, public service, and partnerships.

The Department of Fish and Game is an unparalleled group of dedicated individuals. Most Marine Region staff have made a lifelong commitment as caretakers of the precious resources in the marine environment. They devote their skills and energies to protecting, researching, and providing for the use of marine resources for each California resident and visitor.

Our vision is our image of what we want to be: *The Marine Region is the Leader in Marine Resources Stewardship*. It is the destination we have set for ourselves after taking stock of what we have, what others expect of us, and what we ourselves want. It is a lofty challenge that we feel is obtainable because of the values that sustain us.

Our Strategic Plan Model

The new Marine Region faces several key issues as the steward of California's living ocean resources and habitats. For the purposes of strategic planning, these issues are grouped under three headings: Marine Resources Management and Enforcement, Marine Region Foundations, and Coordination and Outreach. These headings comprise "What We Do, How We Do It, and With Whom We Do It." This is our plan model:



Our plan is organized into two major parts. The Summary Plan (next page) highlights the key issues facing the Marine Region, and the goals and objectives we developed to address those issues. It does not include strategies. The summary plan also contains ecosystem descriptions, the Marine Region description, the Marine Region Map, and how we developed our plan.

The Action Plan (page 30) provides a full statement of each issue, includes the goals and objectives, and also contains all of the strategies we have identified to achieve our goals and objectives.

Some objectives have specific completion times, while others are ongoing. Completion times will be refined as we proceed with implementation.

SUMMARY PLAN: Strategic Planning Issues, Goals, and Objectives



Outdoor California photo

What We Do - Marine Resources Management and Enforcement

The Marine Region is responsible for protecting and managing California's marine resources under the authority of laws and regulations created by the State Legislature, the Fish and Game Commission, and the Pacific Fishery Management Council. We have identified six major elements that make up the challenge of marine resources management: ecosystem management, proactive management, good science/adequate data, habitat, spill prevention and response, and enforcement and education. These elements are "What We Do"— together they form the heart of the Marine Region.

Ecosystem Management

ISSUE: How should we implement an ecosystem approach in marine resources management?

GOAL: To maintain healthy marine ecosystems and sustainable marine resources.

OBJECTIVE: Identify and develop methods, practices, and tools for implementing

this approach.

OBJECTIVE: Incorporate ecological principles into the management approach for

recreational and commercial fisheries.

Proactive Management

ISSUE: How do we establish a system to anticipate and adapt to changing marine resources management issues?

GOAL: To manage marine resources through an adaptive management process that allows for timely and flexible decision making.

OBJECTIVE: Develop a master plan specifying the process and resources

necessary to prepare, adopt, and implement fishery management plans by September 1, 2001, as mandated by the Marine Life

Management Act.

GOAL: To provide for timely and effective management of depressed as well as emerging fisheries.

OBJECTIVE: Improve our ability to acquire, process, and act on timely fisheries

management information, and to report on fisheries management

issues.

OBJECTIVE: Use teams (established and ad hoc) to identify and address

resources management issues.

GOAL: Anticipate and address emerging or developing resources management issues.

OBJECTIVE: Use teams to identify ecosystem-wide issues and geographically-

based issues, alternative solutions, and budgetary costs and

changes on an annual basis.

Good Science/Adequate Data

ISSUE: How do we ensure that sound science is used to make marine resources management decisions?

GOAL: To provide the best scientific information available for resources management decision makers.

OBJECTIVE: Improve the Marine Region's capability to collect and evaluate

fishery dependent and independent resource assessment

information.

OBJECTIVE: Improve and expand staff abilities to conduct good science.

Habitat

ISSUE: How do we emphasize habitat protection, restoration, and enhancement issues in marine management decisions?

GOAL: To promote the value of habitat as the building block of resource sustainability in marine resources management decision making.

OBJECTIVE: Increase the protection and maintenance of existing marine habitats

during the next five years, including substrate, the associated living resources, and water quantity and quality, to protect species diversity, increase populations, provide forage opportunities, and improve

habitat structure for protection and territory.

OBJECTIVE: Provide habitat data necessary for identified management plans by

2001.

OBJECTIVE: Explore the potential for marine habitat restoration.

OBJECTIVE: Effectively implement the use of marine managed areas as resources

management tools by April 1, 2002.

OBJECTIVE: Expand the use of habitat enhancement in the marine environment.

Spill Prevention and Response

ISSUE: How will the Marine Region continue to ensure and improve full and complete implementation of the Spill Prevention and Response Program?

GOAL: To continue to improve the implementation of the Spill Prevention and Response Program.

OBJECTIVE: Maintain a high level of response readiness and keep field staff

turnover at traditionally low rates.

OBJECTIVE: Maximize coordination and consistency with the Office of Spill

Prevention and Response policy and procedures.

Enforcement and Education

ISSUE: How do we more effectively manage marine resources through the development and enforcement of laws and regulations?

GOAL: To improve the capability of the Marine Region to enforce commercial and sportfishing regulations. To improve these regulations and develop penalties commensurate with the severity of the violations.

OBJECTIVE: Increase the amount of enforcement funds, personnel, and

equipment.

OBJECTIVE: Improve the Marine Region's law enforcement effectiveness.

OBJECTIVE: Seek changes to improve the codified

commercial fishing, sport fishing, and

water pollution regulations.

OBJECTIVE: Develop and monitor fine schedules that

reflect the severity of violations.

GOAL: To reduce the occurrence and impacts of illegal activities by improving public education and information about the rules and regulations governing the use of marine resources.

OBJECTIVE: Educate and inform the public about the

programs and goals of the Department to

reduce negative impacts on marine

resources.



Game Warden Paul Hamdorf and Lieutenant John Suchil inspect a crab trap.

How We Do It - Marine Region Foundations

The Marine Region's future must be built on sound foundations. At the center of those foundations is Marine Region leadership and effectiveness—our ability to move toward our vision, provide leadership, and maximize the effectiveness of our operations. Our employees are truly our most valuable asset, and they deserve support, opportunities for development, recognition, and encouragement to meet the challenges we face with initiative and innovation. A second critical component of our foundation is adequate funding. The marine program has seen funding decline in the face of increasingly urgent and substantial mandates for management and research. Funding was a recurring theme in our discussions with stakeholders. Finally, effective strategic and operational planning that is linked to our budget process is critical if we are to meet the challenges of the future. Together with our stakeholders, we must continue to identify the important and emerging challenges facing marine management in California and shape our activities and operational plans to meet them.

Marine Region Leadership and Effectiveness

ISSUE: What are the characteristics that will make the Marine Region an outstanding organization?

GOAL: To ensure effective Marine Region leadership and encourage the development of leadership skills and abilities among all staff.

OBJECTIVE: Provide effective leadership within the Marine Region, and establish the Marine Region as a leader in marine resources management.

OBJECTIVE: Actively nurture new leaders and develop the leadership skills and abilities of all staff.

GOAL: To provide for efficient and effective management of business and administrative services that support Marine Region staff.

OBJECTIVE: Provide the necessary tools and support to staff to enable them to perform their jobs effectively.

GOAL: To provide all employees with increased opportunities for growth, advancement, and recognition.

OBJECTIVE: Develop a comprehensive training and continuing education program that includes formal training and participation at seminars and conferences.

OBJECTIVE: Celebrate achievements by providing timely and meaningful awards and recognition.

Marine Region

GOAL: To provide an internal communications network that allows for timely and effective transfer of information and ideas.

OBJECTIVE: Improve our ability to effectively communicate internally via electronic

communications.

OBJECTIVE: Improve our ability to share information; to recognize achievements

of scientific, technical, enforcement, administrative, and management staff; and to build employee relationships.

OBJECTIVE: Improve employee ability to understand, access, and use Marine

Region and Department decision making processes.

Funding

ISSUE: How do we maximize fiscal resources to address marine resources issues?

GOAL: To maximize the efficiency and effectiveness of Marine Region operations.

OBJECTIVE: Develop a sound budget approach for the Marine Region.

OBJECTIVE: Improve our ability to be fiscally responsible.

GOAL: Broaden fund sources and increase funds available for managing marine resources.

OBJECTIVE: Increase and/or establish new fees where appropriate and improve

our ability to collect existing fees.

OBJECTIVE: Improve our ability to seek outside funding.

OBJECTIVE: Develop alternatives to the existing funding base for marine

resources management.

Planning

ISSUE: How do we ensure that effective strategic and operational planning drives Marine Region decisions?

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GOAL: To ensure our ability to respond to change and address emerging and priority issues through effective strategic and operational planning.

OBJECTIVE: Institutionalize strategic planning in the Marine Region.

OBJECTIVE: Improve annual work planning to incorporate strategic priorities.

With Whom We Do It - Our Partners and Publics

During our planning process, the Marine Region heard from many interested groups and individuals who are eager to participate in stewardship and management of California's ocean resources. Our traditional partners and customers, including commercial and recreational fishermen and industries, are seeking increased involvement in fisheries management. Other agencies and academic institutions are looking to collaborative efforts to maximize research and management programs with limited funds, improve coordination and reduce duplication of effort, and solve complex issues. Environmental organizations are playing an increasingly active and important role in marine resources conservation and management. The public, also, is increasingly aware of the importance of biodiversity and healthy marine ecosystems.

We must foster an open and collaborative approach to marine conservation and management that engages key interest groups and involves the public in policy development and implementation, research, and management. We must coordinate effectively with other agencies and build partnerships. We must encourage a decision-making process that balances resource conservation with human needs. Improved education and outreach to all who are concerned with marine resources are critical steps.

Changing Public Attitudes

ISSUE: How will the Marine Region assess and consider California's changing demographics and diverse environmental values when developing resources management objectives?

GOAL: To manage the extractive, appreciative, and scientific uses of California's marine resources in a manner consistent with the current will and attitudes of the citizens of the State.

OBJECTIVE: Develop and maintain an effective program that assesses and considers the attitudes and values of the agencies, organizations, and people who have a stake or interest in marine resource management.

OBJECTIVE: Consider and incorporate relevant demographic and attitudinal information into program actions.

Public Policy Framework

ISSUE: How do we implement the Marine Region's stewardship responsibilities while being responsive to public interests and concerns?

GOAL: To develop and use a process that considers human needs when making marine resources conservation decisions.

OBJECTIVE: Develop a decision making process that incorporates varied perspectives and sound science into marine resources management by 2001.

OBJECTIVE: Raise the awareness of Fish and Game Commissioners,

Legislators and legislative staff, the Resources Agency, and the

Governor concerning critical marine resources issues.

OBJECTIVE: Determine the best possible management authority for California's

marine resources by 2002.

Coordination and Outreach

ISSUE: How will the Marine Region most effectively coordinate with its stakeholders and partners, as well as educate the public about responsible resource use and conservation?

GOAL: To achieve Marine Region public engagement and resource stewardship mandates through increased coordination, as well as more inclusive resources management and decision making practices.

OBJECTIVE: Demonstrate explicit, quantifiable efforts to coordinate effectively

and/or engage in cooperative work with agencies, organizations, and individuals that have a stake or interest in marine program

outcomes.

OBJECTIVE: Ensure effective coordination with Department coastal regions,

branches, and divisions.

GOAL: To improve the Marine Region's public educational programs and activities to encourage responsible resources use and conservation.

OBJECTIVE: Establish an expanded program of public outreach that educates

broad-based communities on marine resources and habitat issues, and builds trust and confidence in our management decisions.

GOAL: Provide user-friendly and accurate marine fishing regulations.

OBJECTIVE: Produce complete, accurate, easy to understand, and updated

regulations on an annual basis.

OBJECTIVE: Coordinate marine resources management with Federal agencies,

neighboring states and countries, and other State agencies to

reduce complexity and overlap.

Ecosystem Descriptions

The Marine Region has identified three marine resource/habitat zones or ecosystems for the management of California's ocean resources: Bay and Estuary, Nearshore, and Offshore (see Marine Region map, page 27). A fourth ecosystem, inland watersheds, provides critical freshwater flows and sediments to the marine environment and is the management responsibility of Department land-based regions and divisional programs. While these ecosystems encompass vastly different habitats and, for the most part, support distinct species assemblages, they are both dynamic and interdependent. California's ocean resources constitute one of the most biologically rich marine systems in the world.

Bay and Estuary Ecosystem The bay and estuary ecosystem consists of those plant and animal communities found resident during some part or all of their life cycle in semi-enclosed bodies of salt and brackish water, generally not influenced by significant wave action, and inshore to the extent of the tidal penetration of salt water. Coastal estuaries will, at times, receive ecologically significant inputs of fresh water from rainfall and/or melting snow pack from higher elevations. Major bay and estuarine habitats include open-water, deep-water channels, vegetated and unvegetated shallows, intertidal mudflats, and salt marsh. The following groups of living marine resources are included in the definition of this ecosystem:



Marine Region Staff from the Pacific Herring Research Project in Menlo Park sample a school of herring in San Francisco Bay.

- Schooling or pelagic finfish species such as Pacific herring, striped bass, surfperches, topsmelt, and various salmonids;
- Bottom-dwelling finfish and elasmobranch species such as California halibut, starry flounder, white croaker, English sole, leopard shark, round stingray, and bat ray;
- Invertebrate species such as clams, mussels, and other bivalve molluscs, as well as a variety of crabs, shrimps, amphipods, and marine worms;
- Marine mammals such as harbor seals, sea lions, and sea otters; along with seabirds (e.g. California least terns, brown pelicans, cormorants), shorebirds, wading birds, and migratory waterfowl: and
- Seaweeds, seagrasses (e.g., eelgrass), and salt marsh plants such as pickleweed and cordgrass.

Marine Region



Red Sea Urchin (Outdoor California photo)

Nearshore Ecosystem The nearshore ecosystem consists of those natural communities found along the coast from the highest extent of the tide inshore, not including bays and estuaries, to the depth of light penetration offshore (about 100 to 150 m) on the continental shelf. Nearshore ecosystem habitats include rocky intertidal, kelp bed-rocky reef, shallow-water soft substrate (mud and sand), and open/water pelagic. The following living resources are included within the definition of this ecosystem:

- Fishes whose adult forms are resident within the habitats described above, such as rockfishes, cabezon, halfmoon, blacksmith, kelp and sand bass, kelp greenling, giant kelpfish, sheephead, California halibut, and California scorpionfish;
- Nearshore migrant fishes such as white seabass, California barracuda, Pacific bonito, and yellowtail;
- Marine invertebrates including Dungeness and rock crabs, spiny lobster, sea urchin, and abalone;
- Marine mammals (e.g. seals, sea lions, and sea otters) and marine birds such as California brown pelicans, common murres, and gulls; and
- Giant kelp, bull kelp, surfgrass, and other forms of algae and aquatic plants.

Offshore Ecosystem The offshore ecosystem consists of those natural communities found in the open and deep ocean environments beyond the depth of light penetration offshore (about 100 to 150 m) on the continental shelf and including the continental slope (which begins at about 200 to 300 m). This includes the pelagic and benthi-pelagic realms. The following living marine resources are included in the definition of this ecosystem:

- Groundfish species resident on or over the deep ocean bottom such as many rockfish and flatfish species, lingcod, sablefish, grenadiers, and pollock;
- Coastal pelagic species such as jack and Pacific mackerel, Pacific sardine, anchovy, and squid;
- Salmonid species during the oceanic phase of their life cycle;
- Highly migratory pelagic species such as tuna, billfish, and pelagic sharks; and
- Whales, dolphins, and pelagic bird species such as albatross and shearwater.



School of Market Squid (Loligo opalescens) spawning.

Marine Region Description

Ecosystem Management Program

The Ecosystem Management Program consists of marine biologists, environmental specialists, managers and support staff in 11 offices along the California coast. Marine Region operations are organized into three geographic areas: northern, central, and southern (see Marine Region map, page 27). Area managers, supervisors, and staff are available to respond to local issues and to form partnerships and cooperative relationships with other agencies, institutions, and individuals interested in marine issues and whose existence is closely linked with viable marine ecosystems. Coastwide marine policy is developed and coordinated within the three marine ecosystem zones: the Bays and Estuaries Ecosystem, the Nearshore Ecosystem, and the Offshore Ecosystem. All Marine Region staff participate on Ecosystem Teams and Ad Hoc Teams that identify major issues and provide policy recommendations. Ecosystem Management Program staff:

- Monitor commercial, recreational, and scientific harvest, including aquatic plant harvest and marine aquaculture production; develop population assessments; and conduct research on biological communities, individual species, and /or habitats.
- Create management plans for recreational and commercial fisheries; obtain information and advice from stakeholders and fisheries scientists; determine total allowable harvest levels and appropriate quotas; identify research and data collection needs and coordinate efforts with other agencies, academia, and consultants; and develop recovery plans for species listed as threatened and endangered under the California Endangered Species Act.
- Develop and analyze marine resource policy alternatives for the Director, Commission, Agency Secretary, Governor, and the Pacific Fishery Management Council; develop and analyze regulatory alternatives for the Director, Commission and Council, and prepare regulatory change documentation; and develop and analyze proposed legislation for the Director, Secretary and Governor.
- Chart nearshore and intertidal habitats and environments, detail habitat types, and determine species-habitat relationships.
- Issue Kelp Harvesting licenses, Importation, and Broodstock collection permits; review applications for Scientific Collection Permits and Aquaculture Facility Registrations; and
 - draft, issue, and administer state water-bottom leases for aquaculture development and exclusive harvest-right leases for kelp beds on behalf of the Fish and Game Commission.
- Monitor the health of natural and cultured populations of marine animals; identify disease causative agents; develop measures to prevent the spread of disease in wild populations; and conduct health inspections on species imported into California.



Sand dollars. Outdoor California photo.

- Evaluate existing and proposed marine protected areas, and facilitate development of a statewide system of marine managed areas.
- Investigate the feasibility of using hatchery reared animals to enhance natural populations of marine organisms; develop rearing methods; and evaluate success. Determine habitat enhancement needs; develop and implement methods for enhancing marine habitat types; and evaluate the effectiveness of these efforts.
- Investigate the systematics and zoogeography of California's marine fishes, and monitor effects of changing oceanographic and environmental conditions such as El Niño events.

Marine Project Review and Water Quality Assessment Program

First established in the early 1970's, the Marine Project Review and Watery Quality Assessment Program's basic responsibilities have not significantly changed in nature, but have increased measurably in terms of the number of projects staff address and the level of potential adverse impacts from project implementation and operation. Program staff review, evaluate, and respond to environmental documents prepared under various state and federal statutes, as well as permit applications, consistency determinations, requests for waste discharge certifications, and a variety of other regulatory actions from state, federal, and local agencies regarding development projects affecting the marine environment. To protect marine resources and their habitats, staff provide comments and recommendations on shoreline protection, beach nourishment, and other construction-related proposals, such as jetties and groins, that affect shoreline processes. Program staff also respond to spills and other unauthorized discharges of materials which may adversely impact marine and estuarine resources, as well as provide natural resource damage assessment and laboratory support when needed. Additionally, the program emphasizes active participation by staff in multi-agency, cooperative, long-range habitat conservation planning efforts to protect marine resources and their habitats.

As part of water quality planning, the staff participate in the development and implementation of State, Federal, and regional large-scale and long-term water quality plans in marine and estuarine environments. Staff also evaluate National Pollutant Discharge Elimination System (NPDES) permit applications, Regional Water Quality Board Waste Discharge Requirements, and Clean Water Act Water Quality Certifications for consistency.

Enforcement and Education

The Marine Region Law Enforcement function consists of 47 full time peace officers (wardens) dedicated to enforcing sport and commercial regulations and 19 peace officers dedicated exclusively to spill prevention and response activities. The Region's vessel fleet consists of 3 large, 4 midsize, and 17 smaller patrol vessels, 5 new rigid hull inflatable patrol boats, and an additional large patrol boat under construction. Officers are deployed geographically along the coast with each marine warden responsible for approximately 25 miles of shoreline and 4,500 square miles of open ocean. Marine Region wardens conduct on-water and shoreline patrols; specialized details; inspections of markets, restaurants, wholesalers, receivers, transporters, airports and border

crossings; and audits of landing receipts, fishing logs, and tax accounts.

In addition to traditional law enforcement squads, officers participate on self-directed work teams that help administer boat operations, special detail formation, policy formation, training, and equipment acquisition, inventory, and deployment. Officers work with scientific staff on Marine Region ecosystem teams. Marine Region officers also participate in enforcement efforts in other Department regions, and officers from other regions support marine enforcement activities. Marine Region officers maintain liaison with other agencies and departments and are deputized as federal and National Marine Sanctuary officers.



Game Warden Dean Hileman and Captain Doug Huckins.

Marine Region Spill Prevention and Response officers conduct patrols; locate sources of marine water pollution and potential releases of pollutants into marine waters; respond to pollution incidents; initiate and command cleanup responses; investigate pollution incidents; inspect vessels and shore facilities for spill response compliance; collaborate on pollution strike teams; and also respond to inland spills that involve state waters. Officers continually train and drill with the United States Coast Guard and involved industries.

All Marine Region officers conduct public education through personal contacts and presentations to local fishermen and their associations, environmental and animal rights interest groups, public and private organizations, conferences, and elementary-to-college level school groups. Informational bulletins and flyers are developed and distributed to keep the public informed of current law and changes that effect the marine environment. Educational liaison with local courts, district attorneys, state and federal agencies, and state and local boards and commissions are continuously maintained.

Marine Outreach

The Marine Outreach staff conduct various fishing and marine educational programs for children and youth in southern California. In partnership with local schools and cities, Marine Outreach staff facilitate the development of the Los Tiburones youth fishing clubs, which currently include 15 to 20 clubs with 15 to 100 members each. Staff organize and conduct monthly salt water fishing tournaments for the clubs at Los Angeles and Orange county public piers. Staff also partner with local landings to offer annual fishing trips and whale watching on commercial passenger fishing vessels.

The Marine Outreach program also conducts live shark shows at schools and libraries for students and the general public to provide educational opportunities and information about marine related careers. Staff develop and publish informational leaflets and educational materials for the outreach program and general use by the Marine Region. Marine Outreach also represents the Marine Region and the Department at public events, including trade shows, county fairs, and the State fair.

Marine Region Spill Prevention and Response

By preventing and responding to spills of oil and other hazardous materials in the marine environment, the Office of Spill Prevention and Response (OSPR) field programs, now in the Marine Region, protect and preserve living marine resources, and access for consumptive and non-consumptive use of those resources; protect public health and aquaculture; and protect habitat (including wetlands), water quality and shoreline processes.

The Spill Prevention and Response Unit is built upon a Field Response Team (FRT), which is usually comprised of wardens, oil spill prevention specialists, and scientists (usually a biologist). The FRT is responsible for spill response, spill preparedness, and training to maintain qualifications as spill responders. The FRT is available on-call 24-hour, seven days per week, to enable rapid response to spills.



DFG divers preparing to capture sea otters.

To prevent spills, Marine OSPR regulates the transfer of petroleum products through monitoring at oil transfer sites. Marine OSPR also reviews and field-verifies oil spill contingency plans, and evaluates oil spill drills to ensure readiness of individual contingency-plan holders to execute their plans. In preparation of more general Area Contingency Plans and for mapping purposes, Marine OSPR collects information about the location of coastal access points, land ownership, boat launch facilities, and the location of aquaculture facilities. Marine OSPR surveys, inventories, and maps habitats, then develops and ranks strategies for protecting habitats prior to and during spill response.

In the event of a spill, Marine OSPR field staff participates in a Unified Command (UC), an emergency response organization formed for the duration of the incident. Within the UC, spill response includes isolation, containment and clean up of the spill along with investigation of the spill's cause. During spill response, Marine OSPR coordinates with the Responsible Party, the Federal On-Scene Coordinator and with other state and local agencies. OSPR staff recommends clean up measures, monitors effectiveness of those measures, identifies oil-injured habitats and marine resources, and helps determine when cleanup is complete.

During and after the spill, some field staff may participate in studies to identify spill-related injuries to living resources and their habitats, to help develop restoration plans for them, and then to oversee their implementation and evaluation.

To assist Marine OSPR with its mission, the Marine Region's Spill Response and Habitat Protection Program conducts spill response and preparedness activities that relate to fisheries, habitat, water quality and shoreline processes.



Dr. Dave Jessup monitoring vital signs of a chemically immobilized sea otter.

The Marine Region Veterinary Services Unit, at the Santa Cruz Marine Wildlife Veterinary Care and Research Center, conducts studies of sea otter demographics, behavior, health, and mortality, and maintains a dive team and dive boats for otter capture and research. The unit works with other State agencies to coordinate spill response activities involving wildlife and to assist with response to natural disasters involving animals. During spill response, as a member of the Oiled Wildlife Care Network, the unit assists with veterinary care of animals injured during the spill, holds them during recovery, and when appropriate, performs post-mortem analyses for to support damage-assessment claims. The Center also provides space for veterinary research related to treatment oil-related injuries to birds and marine mammals.

Technical Support

The Marine Region Technical Support Program provides statistical and analytical support to other programs. This program provides statewide consultation on research planning, design, and protocol; sampling design; population modeling; stock assessment; and analysis to a wide variety of Department programs, including Department divisions and other regions. Because the majority of the Technical Support Program's work supports Marine Region biological staff, this group is located in the Marine Region. Technical support staff, including research managers, research analysts, statisticians, and biologists, are stationed in Monterey and Long Beach to provide access to biological staff in major areas of the region. The Technical Support Program also provides training in statistical methods and analysis to Department scientific staff.

Marine Region Administration

Marine Region Administration provides administrative, fiscal, personnel and clerical support for all employees in the Marine Region. These services include annual budget development and management, contracts, general purchasing and procurement, computer procurement, and vehicle and vessel procurement; building and facility management for 11 offices located coast wide, and health and safety administration; personnel transactions, payroll, and training coordination; and word processing and reception.

In addition, the Administrative Program staffs full license counters in the Long Beach, Monterey, and Menlo Park offices. These license counters process about \$2,800,000 of transactions at each counter every year, and provide hunting and fishing licenses, commercial licenses, a variety of permits, and general information to the public. These three counters are among the busiest in the Department with Long Beach and Menlo Park ranking first and second in license sales. Marine licenses and permits are also sold at other Department regional offices (including Eureka, Yountville, and San Diego) and at the License and Revenue Branch in Sacramento.



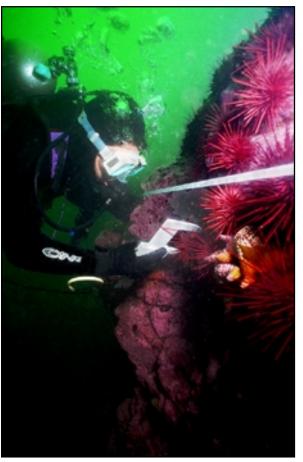
John Fitch and staff member examine unusual fish. DFG archive photo.

Department of Fish and Game Diving Safety Program

Underwater diving operations are often required to accomplish or implement the Department's goals, objectives, and responsibilities. The Diving Safety Program was established to ensure these operations are conducted in a safe and efficient manner. Approximately 60 Department employees, including biologists, environmental specialists, and wardens, are certified as active divers with the Department. About 50 of these program divers are Marine Region staff. The Department program was first established in the early 1950s and is one of the oldest diving programs in the world.

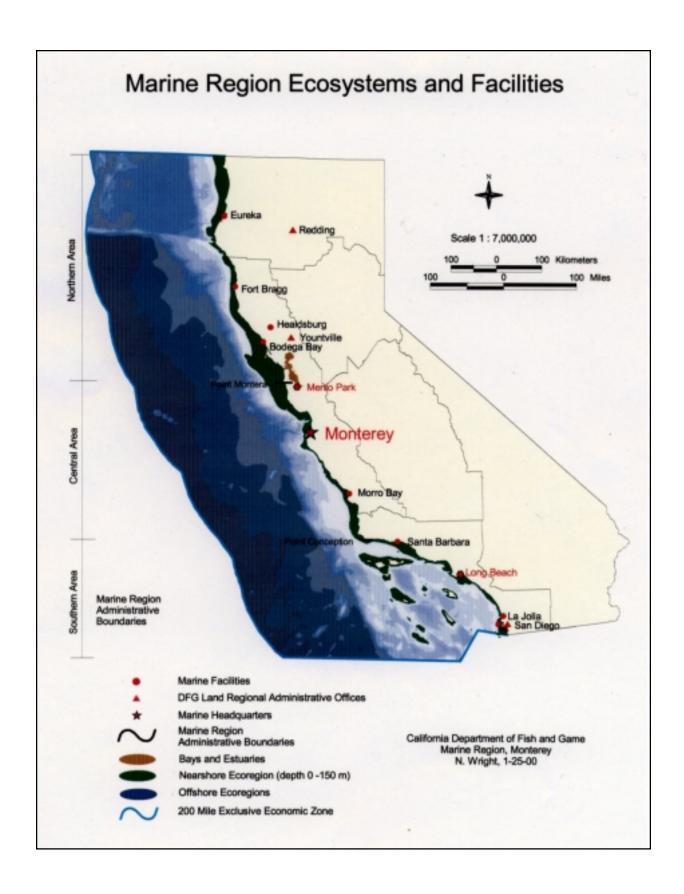


Biologists conducting field studies. DFG archive photo.



DFG diver conducting a sub-tidal transect survey for red abalone and red sea urchins along the 30 m transect at one of the four sites in the northern California Pt. Cabrillo marine reserve (1999).

The purpose of the diving program is to conduct scientific and enforcement activities in marine and inland waters of California. Safety standards are maintained consistent with Occupational Safety and Health Administration requirements. The program is administered by the Department's Chief Deputy Director, who serves as the Diving Program Manager. The Diving Safety Board, which is made up of at least four Department employees trained as SCUBA diving instructors, is appointed by the manager to direct the day to day operations of the diving program. The board administers the program, develops procedures and safe diving practices included in the Diving Safety Manual, and plans annual recertification and certification activities for program divers. The board also coordinates with other diving programs in California and throughout the nation to maintain current standards, address reciprocity among programs, and collaborate on diver training.



How We Developed Our Strategic Plan

"It's better to look ahead and prepare than to look back in regret." Anonymous

The primary emphasis of the Marine Region's strategic planning effort has been communication, both external and internal. Through this process, we introduced the new Marine Region to many of our stakeholders and had opportunities to hear about their concerns and interests regarding marine resources management, habitat protection, and other important issues such as

funding and coordination. It has also been an opportunity for the various members of the new Region to begin to forge a common identity and to plan our future as a new organization in the Department of Fish and Game. The goal of our strategic planning process has been to determine "where are we now, where do we want to be, and



Scientific Aid Dan Dugan with a California halibut on halibut tagging cruise off of Avila Beach, San Luis Obispo County.



Becky Ota measuring sport-caught abalone during a creel census at Franklin Point, San Mateo county.

what stands in our way?" This has been an invaluable experience for many in the Marine Region, and we hope it will continue as this process extends into the future.

During our strategic planning process, the Strategic Planning Team (SPT) sent out over 135 written surveys to a targeted list of outside agencies, groups and individuals that represented a broad cross section of interests; 85 (63%) responded. We invited respondents to share their opinions and concerns about marine resources issues and what the Department should do about them; they also were given the opportunity to comment on our mission, our programs, our management effectiveness, and how well we communicate. We conducted six focus group meetings along the coast in Eureka, Fort Bragg, Monterey, San Pedro and San Diego, as well as in Sacramento. Participants were asked about their views on the most important issues facing the Marine Region and what the Region should do about them.

The SPT also sought the opinions and expertise of Marine Region staff. At a team training seminar, staff helped build our vision, identified issues and problems, and offered effective solutions. Responses to an internal questionnaire identified staff perceptions and concerns about policy, communication, and teamwork. We also conducted two sets of coast wide Marine Region staff meetings and invited staff to develop solutions and strategies to address the issues that emerged from our external survey, the focus group meetings, and our internal questionnaire. Both Marine Region staff and external stakeholders identified many common concerns and produced creative and innovative solutions.

The SPT and our Strategic Planning Consultant identified major issues and organized the ideas and solutions into a standard plan format of goals, objectives, and strategies. Our Sponsor and Advisor Committees provided guidance through the process and served as plan champions. All along the way, the SPT provided "raw" results of the surveys, focus group meetings, and staff meetings to the participants and kept them informed of our progress. A draft plan was reviewed by the



Ocean Salmon Project staff dissect salmon during a hook mortality cruise aboard the R/V MAKO.

Department's Leadership Team, our Sponsors and Advisors, and Marine Region staff. After more than a year of strategic planning, we completed the final plan and provided it to our stakeholders.

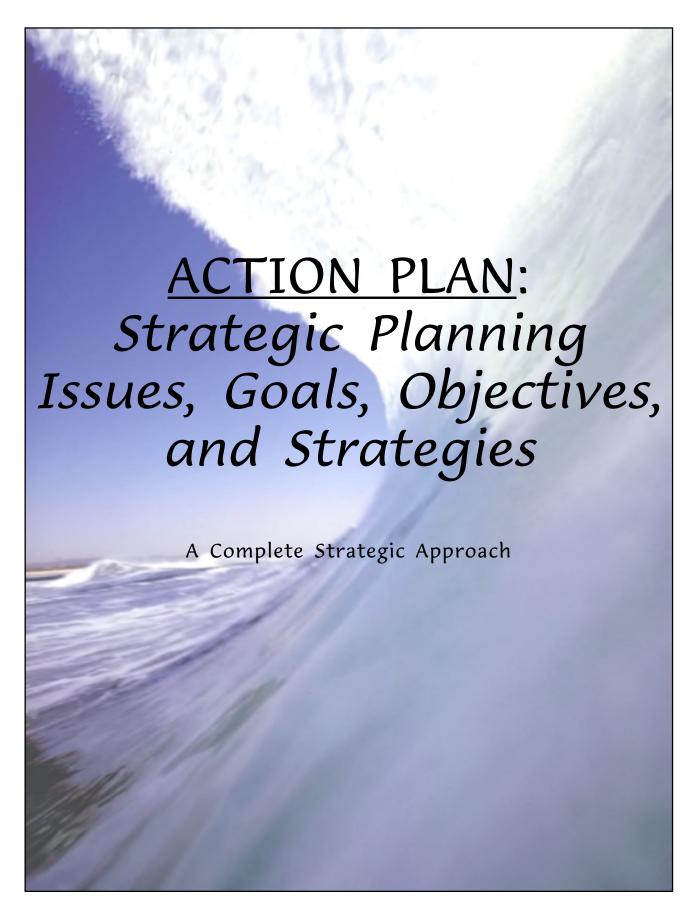
The Marine Region Strategic Plan was developed as an update and addendum to the Department of Fish and Game's Strategic Plan that was published in May 1995 (Department of Fish and Game Administrative Report 95-1). The Marine Region Strategic Plan was also developed in accordance with State of California Strategic Planning Guidelines published in September 1996 (Department of Finance).

The Marine Region Strategic Plan builds on the themes, goals, and strategies laid out in the Department Strategic Plan, as they apply to the Marine Region and marine resources issues. The



Lieutenant Jorge Gross and Game Warden John Castro.

four main themes of the Department's plan are Public Service, Outreach and Education; Cooperative Approaches to Resource Stewardship and Use; Managing Wildlife from a Broad Habitat Perspective; and Organizational Vitality. The Marine Region plan focuses on similar themes: Marine Resources Management and Enforcement from an ecosystem perspective; Marine Region Foundations that depend on leadership and effectiveness, secure funding, and comprehensive planning; and Coordination and Outreach that involve partnerships and the public.



What We Do - Marine Resources Management and Enforcement

The Marine Region is responsible for protecting and managing California's marine resources under the authority of laws and regulations created by the State Legislature, the Fish and Game Commission, and the Pacific Fishery Management Council. We have identified six major elements that make up the challenge of marine resources management: ecosystem management, proactive management, good science/adequate data, habitat, spill prevention and response, and enforcement and education. These elements are "what we do"— together they form the heart of the Marine Region.

Ecosystem Management

ISSUE: How should we implement an ecosystem approach in marine resources management?

The management of marine resources at both the state and federal levels is moving toward an ecosystem approach. Although ecosystem management is a new science with emerging concepts, it is fundamentally a broad approach that recognizes the interdependence of multiple species and their habitats within a variable oceanographic environment. It also acknowledges the need for building consensus-based solutions to complex resources management issues. Given California's changing demographics, attitudes, and values, we must develop and implement management plans for marine resources that ensure sustainable populations for their ecological values, and scientific, recreational, and commercial uses.

GOAL #1: To maintain healthy marine ecosystems and sustainable marine resources.

A. OBJECTIVE: Identify and develop methods, practices, and tools for implementing this approach.

STRATEGIES:

- Advance stewardship and ecological values of marine resources as our first priorities.
- Explore how other nations and states have approached ecosystem management, including the Panel on Ecosystem Management. Gather and review existing plans/strategies used by other entities and resource agencies.
- 3) Develop an approach to monitor marine ecosystem health.
- 4) Establish teams of experts from different disciplines to identify the key components of healthy ecosystems and to address issues that transcend ecosystem boundaries. Identify key resources and components that tie ecosystems together.
- **B. OBJECTIVE:** Incorporate ecological principles into the management approach for recreational and commercial fisheries.

STRATEGIES:

1) Identify species and assemblages that are in need of immediate attention and rank them according to perceived risk. Collaborate with Federal agencies

- (in particular, the National Marine Fisheries Service), State agencies, academic institutions, and other appropriate entities to conduct cooperative stock assessments of the most vulnerable stocks.
- 2) Coordinate with the Department's Habitat Conservation Division on multispecies planning and listed species issues.
- 3) Coordinate with the Department's Wildlife and Inland Fisheries Division on wildlife and fisheries issues.
- 4) Determine status of key recreational and commercial fishery stocks. Develop a prioritized schedule to assess the population status of utilized species.
- 5) Consider trophic level (food web) interactions, other ecological relationships, and environmental effects in fisheries management decisions.
- 6) Consider how various fisheries affect ecosystems.
- Consider how the ecosystem affects various fisheries. Manage or address components that affect fisheries (marine mammals, birds, water quality, suitable habitat, etc.).
- 8) Recognize long term shifts in ocean regimes and evaluate effects on species and fisheries.
- 9) Develop fishery management plans that include a peer review process.
- When crafting management plans, greater consideration must be given to the expertise and knowledge of commercial and recreational stakeholders.
- 11) Commit the necessary resources to fulfill the Marine Life Management Act and adhere to its policies and procedures.
- 12) Assess the impact of regulations from the perspective of improving marine ecosystems.
- 13) Identify overfished stocks, halt overfishing, and develop recovery plans for overfished fisheries.
- 14) Require new/emerging fisheries to fund research needed for management of those fisheries.



Anita Daughtery, DFG Marine Biologist, with net samples of sardines in 1943. DFG archive photo.

- 15) Support experimental fisheries technologies that reduce bycatch to minimize pressure on heavily exploited species. Reevaluate commercial fishing practices to lower or eliminate bycatch of untargeted and unmarketable species.
- 16) Foster the self-policing of resource users, particularly in commercial fisheries, through outreach, education, and incentives that encourage stewardship.
- 17) Modify, phase out, or develop alternatives for gear types (e.g. trawl nets with roller gear), mariculture practices, and coastal development activities that a significantly impact marine habitats and organisms.
- 18) Modify, phase out, or develop alternatives for fisheries that have significant adverse impacts on other ecosystem components.

Proactive Management

ISSUE: How do we establish a system to anticipate and adapt to changing marine resources management issues?

Being proactive is most simply stated as "taking the initiative." Becoming more proactive clearly requires developing and implementing a plan that anticipates the future. It also requires that we take a forward-thinking view, that we anticipate future trends, developments, and demands in marine resources management, and that we be capable of appropriate and effective action. We must improve our ability to acquire, process, and act on information that presents us with new and challenging resources management issues. We will strive to establish a system that collects and processes timely information and data on potential and new fishery and resource issues while allowing for timely management measures.

GOAL #2: To manage marine resources through an adaptive management process that allows for timely and flexible decision making.

A. OBJECTIVE: Develop a master plan specifying the process and resources necessary to prepare, adopt, and implement fishery management plans by September 1, 2001, as mandated by the Marine Life Management Act.

STRATEGIES:

- 1) Identify the "established" fisheries managed by the State and in conjunction with the Pacific Fishery Management Council.
- 2) Develop a priority list of resources/fisheries for preparation of fishery management plans.
- 3) Describe the current research, monitoring, and data collection that the Marine Region conducts for marine fisheries.
- 4) Identify additional activities needed to acquire essential fishery information with emphasis on highest priority fisheries.
- 5) Develop interim fishery research protocols for peer review for at least the three highest priority fisheries that have the greatest need for changes in conservation and management measures.
- 6) Develop a process that ensures meaningful involvement by fishery

- participants and other interested parties in the development of fishery management plans and research plans.
- Develop and adopt a Nearshore Fisheries Management Plan and implement the White Seabass Management Plan, as mandated by the Marine Life Management Act.

GOAL #3: To provide for timely and effective management of depressed as well as emerging fisheries.

A. OBJECTIVE: Improve our ability to acquire, process, and act on timely fisheries management information, and to report on fisheries management issues.

STRATEGIES:

- Convene annual meetings in northern, central, and southern California to receivepublic comments, concerns, and recommendations regarding marine resources management issues.
- Report to the Fish and Game Commission on the status of all marine fisheries managed by the State and identify those fisheries that are depressed or overfished by September 1, 2001, as mandated by the Marine Life Management Act.
- 3) Shift the "burden of proof" from the management agencies to the fisheries. Develop a more precautionary approach to fishery management.
- 4) Report annually to the Fish and Game Commission on the status of at least one-fourth of the marine fisheries managed by the State.
- 5) Develop criteria for identifying and prioritizing potential emerging fisheries for offshore, nearshore, and bays/estuaries ecosystems.
- 6) Develop a periodic report to be posted on the Department Web Page to communicate significant biological findings, fisheries development, and emerging fisheries issues.
- 7) Reconstitute an advisory committee to meet annually to discuss marine fisheries management issues and provide management recommendations to the Department.
- 8) Increase interaction between biologists, fishermen, and anglers by establishing routine observation/ride-along programs.
- 9) Develop a coordinated health screening policy to evaluate the use of cultured organisms for enhancement in a consistent and thorough manner.
- **B. OBJECTIVE:** Use teams (established and ad hoc) to identify and address resources management issues.

STRATEGIES:

- 1) Invite fishermen, scientists, environmentalists, and other interested parties to participate in Ecosystem Team meetings.
- 2) Establish an interdisciplinary team of wardens and biologists to identify regulatory redundancies and propose cleanup legislation and Fish and Game Commission action for the year 2001 regulatory process.

 Invite staff from other Department regions and programs to participate on ecosystem teams. Involve Marine Region staff in teams outside the Marine Region.

GOAL #4: Anticipate and address emerging or developing resources management issues.

A OBJECTIVE: Use teams to identify ecosystem-wide issues and geographically-based issues, alternative solutions, and budgetary costs and changes on an annual basis.

STRATEGIES:

- Develop a process for Ecosystem Teams and Ecosystem Coordinators to identify and prioritize emerging marine resources issues within each ecosystem.
- Develop a process for Geographic Teams (supervisory units) and Area Managers to identify and prioritize emerging regional issues that may transcend ecosystem boundaries.
- 3) Ensure budget process needs are met by early consultation with budget analysts.
- 4) Develop and use a regional steering committee process to integrate and prioritize ecosystem and geographic issues as part of an annual resources management planning process.

Good Science/Adequate Data

ISSUE: How do we ensure that sound science is used to make marine resources management decisions?

Effective management and protection of marine resources and habitat require adequate information on which to conduct credible science and base sound recommendations and decisions. Both fishery dependent and fishery independent sources of information and data, including collection, processing and analysis, are necessary to assess the status, trends, and interactions of resources and fisheries.



Leanne Laughlin holding a small make shark on the 1997 R/V MAKO pelagic shark longline tagging cruise. John O'Brien is in the background.

GOAL #5: To provide the best scientific information available for resources management decision makers.

A. OBJECTIVE: Improve the Marine Region's capability to collect and evaluate fishery dependent and independent resource assessment information.

- 1) Develop and prioritize a list of fishery stocks for which annual, bi-annual, or tri-annual population estimates would be both feasible and useful.
- 2) Continue field editing of fish receipts, and augment field offices with additional staff to help in this effort.
- 3) Develop a monitoring program to create baseline data to gauge the health of intertidal marine resources.
- 4) Establish a position classification to provide permanent employees to augment data collection, monitoring, and fishery observation programs (e.g. Fishery Technician).
- 5) Use assessments based on most current data available from all sources.
- 6) Develop baseline data on presence and distribution of diseases within wild stocks of marine organisms accepted for culture in California.
- 7) Continue to develop long-term databases (such as the California Cooperative Oceanic Fisheries Investigations time series) to enable effective management of commercial and sports fisheries.
- 8) Create a computer database for scientific collecting permits to allow effective tracking of reported marine resource harvests by this program.
- 9) Develop a program to routinely meet with commercial fish business representatives to improve and facilitate the collection and processing of fish landing receipts.
- 10) Provide contract funds to charter private vessels for fishery independent surveys, when this option is more effective and efficient.
- 11) Classify and quantify all marine habitat out to the continental slope.
- 12) Continue to develop electronic database for commercial fisheries transportation receipts.
- Reestablish a commercial fisheries information system committee to develop future plans for capturing and reporting fisheries data submitted by fishermen and industry.
- 14) Develop baseline data on presence and distribution of diseases within wild stocks of marine organisms accepted for culture in California.

B. OBJECTIVE: Improve and expand staff abilities to conduct good science.

- Establish a Marine Region Editor and an outside peer review process for all scientific publications.
- Establish a resource assessment team (including the disciplines of population dynamics, economics, population modeling, and statistics) to more effectively address emerging assessment needs and interim fishery protocols.
- Continue to encourage open hiring practices for associate/senior biologist, supervising biologist, environmental specialist, and management classifications. Actively recruit qualified personnel.
- 4) Investigate feasibility of upgrading all biologist positions to a pay level equal to Environmental Services classifications.
- 5) Create a coastwide internship program for graduate students in marine biology.

- 6) Seek increased out-of-state travel budget authority to allow staff to attend relevant scientific conferences, symposia, and workshops.
- 7) Create a Marine Region annual reward program for scientific merit and achievement.
- 8) Identify opportunities and facilitate scientific staff applications for and use of grant funds.
- Create more senior scientist specialist positions to improve and expand on career alternatives and encourage the development of technical and subject area experts.
- 10) Encourage staff involvement in graduate programs and continuing education, and explore the use of sabbaticals, to improve and develop expertise and broaden experience.
- 11) Conduct Departmental workshops to encourage sharing of knowledge and expertise among scientific staff.
- 12) Conduct seminars in conjunction with senior staff meetings.

Habitat

ISSUE: How do we emphasize habitat protection, restoration, and enhancement issues in marine management decisions?

The concept of habitat is as diverse in the marine environment as it is on land. In addition to typical habitat delineations such as substrate (rocks, mud, sand, etc.), cover, and forage (kelp, algal growth, certain colonial invertebrates, etc.), water plays a critical role in our diverse marine environments. What we do in, near, or on the ocean has profound effects on the organisms that dwell there.

In the past the concept of habitat, and its specific or overall ecological value, was given little consideration in management plans and not always identified as an important management need. We must apply to marine habitats under our stewardship the same level of importance and consideration that we have developed through the years for land-based habitats. Habitat issues such as protection, alteration, restoration, and enhancement must be considered and addressed in the marine ecosystems management process.

GOAL #6: To promote the value of habitat as the building block of resource sustainability in marine resources management decision making.

A. OBJECTIVE: Increase the protection and maintenance of existing marine habitats during the next five years, including substrate, the associated living resources, and water quantity and quality, to protect species diversity, increase populations, provide forage opportunities, and improve habitat structure for protection and territory.

- 1) Use an ecosystem approach that addresses habitat requirements when making management decisions and recommendations.
- 2) Identify and protect essential and productive fish and invertebrate habitats.
- 3) Develop strong and consistent policies to protect, sustain and enhance marine habitat.
- 4) Develop "healthy" habitat profiles for marine ecosystems and identify specific "alert" situations or use a system of indicator species for monitoring.
- 5) Support other Department functions in their negotiations concerning water needs for anadromous species.
- 6) Provide the public with information that emphasizes the value of habitat in ecosystem management.
- 7) Address wetlands habitat issues by increasing Marine Region involvement and coordination with Department coastal regions.
- 8) Provide specific training for law enforcement personnel concerning marine habitat degradation to improve enforcement capability.
- 9) Explore incentive programs to proactively prevent further loss of marine habitats.
- Identify harvesting/utilization practices that are destructive to marine habitats. Minimize or avoid impacts by restricting gear types and developing alternatives.
- 11) Involve the public in protecting and maintaining marine habitats by using volunteers in citizen-watch programs, cleanup days, and other activities.
- 12) Coordinate closely with other agencies to minimize effects of toxic substances, pathogens, and exotic species on marine habitats.
- 13) Increase resources (equipment, staff, contracts, grants) for habitat evaluation assessment, and protection.
- 14) Modify Fish and Game Code Section 1700 to include habitat protection.
- 15) Review mariculture policy and regulations to ensure they address habitat protection.
- **B. OBJECTIVE:** Provide habitat data necessary for identified management plans by 2001.

- Catalog critical marine habitat in an easily accessible format for use by the Department, other agencies, academia, researchers, and the general public. Work collaboratively with other agencies, researchers, and academia to develop a universal format and naming convention for habitat mapping purposes.
- 2) Assemble existing data in a central depository. Utilize technology to acquire and maintain these data and make them accessible.
- 3) Collaborate with other agencies and researchers to obtain necessary habitat data for management plans and regulatory purposes.
- Identify and prioritize habitat research needs, especially those related to nursery areas, spawning grounds, and other life-stage critical habitat associations.

- Openly encourage academic research to supply habitat data needs by providing research platforms, match-funding, and opportunities for collaboration.
- Quantify habitat values in the marine environment for mitigation, restoration, and replacement.
- **C. OBJECTIVE**: Explore the potential for marine habitat restoration.

- 1) Work collaboratively with other agencies, academia, and conservation groups to determine the most probable and important restoration needs.
- 2) Identify restoration processes that hold the most promise and develop an evaluation process to assess restoration effectiveness.
- **D. OBJECTIVE:** Effectively implement the use of marine managed areas as resources management tools by April 1, 2002.

STRATEGIES:

- 1) Determine appropriate and effective uses of marine managed areas.
- Develop a policy concerning marine managed areas and the various designations of access and use.
- Develop goals, criteria, enforcement, monitoring, and evaluation processes for the establishment, maintenance, and enforcement of marine managed areas.
- 4) Network with other states and/or countries to study success stories in marine managed areas and resource management.
- 5) Use a collaborative approach regarding marine managed areas by involving the scientific community, other agencies, commercial and recreational fishing interests, environmental organizations, and the public in policy development and implementation.
- 6) Facilitate development of a single system of marine managed areas that integrates the various State and Federally designated areas. Establish clear goals for a statewide system.
- Consider creating no-take zones to protect critical spawning and nursery habitat, and harvest refugia of appropriate size to ensure sustainable fisheries.
- 8) Evaluate and consider establishing rotating no-take zones to sustain exploited demersal and benthic species.
- **E. OBJECTIVE:** Expand the use of habitat enhancement in the marine environment.

- Develop a policy concerning the use of artificial habitats in the marine environment.
- 2) Develop goals, criteria, enforcement, monitoring, and evaluation processes for the establishment and maintenance of artificial habitats.

Marine Region

Spill Prevention and Response

ISSUE: How will the Marine Region continue to ensure and improve full and complete implementation of the Spill Prevention and Response Program?

California's rich assemblage of fish, wildlife, and habitats is at significant risk from the release of oil and other hazardous materials in its bays and estuaries, nearshore, and offshore ecosystems. Effective prevention, as well as a rapid and thorough response to spills, reduces that risk and ensures a maximum of protection to these marine resource values. Marine Region staff currently provide a high level of protection through the actions of its Field Response Teams, which include Environmental Specialists, Wildlife Protection personnel, and Oil Spill Prevention Specialists, and the Marine Wildlife Veterinary Care and Research Center. The Marine Region's Spill Prevention and Response Program is a critical ingredient in the Region's ecosystem management approach to marine resources.



Ed Boyes takes a sample during Platform Eureka-Elly spill from Department response boat.

GOAL #7: To continue to improve the implementation of the Spill Prevention and Response Program.

A. OBJECTIVE: Maintain a high level of response readiness and keep field staff turnover at traditionally low rates.

STRATEGIES:

- Ensure staff work in accordance with their unit and individual work plans in spill prevention and response tasks consistent with their training and good health and safety practices.
- 2) Continue Office of Spill Prevention and Response (OSPR) administrative support for spill response staff in the Marine Region.
- 3) Allocate and manage adequate Spill and Preventionand Administrative funds through the OSPR administrative staff.
- 4) Continue to provide high levels of training for staff in both job skill and career development.
- 5) Maintain existing levels of modern equipment necessary for the effective implementation of the spill prevention and response program.
 - 6) Take the lead on addressing biological issues concerning exotic species introduced by ballast water. Coordinate with Central Valley Bay-Delta Branch and OSPR.



Humboldt Bay Oil Spill with clean-up boat and boom.

B. OBJECTIVE: Maximize coordination and consistency with the Office of Spill Prevention and Response policy and procedures.

- Add a significant number of response ready personnel through cross training of Marine Region personnel.
- 2) Maintain staff in locations that maximize their abilities to effectively respond to and manage oil spill responses, affect OSPR policy, and provide Marine Region perspective to OSPR management.
- Provide basic oil spill response and health and safety training for Marine Region employees.



Oiled bird from the Humboldt Bay Oil Spill receives bath to remove oil.

4) Encourage spill prevention and response staff interaction with and participation on Marine Region ecosystem teams.

Enforcement and Education

ISSUE: How do we more effectively manage marine resources through the development and enforcement of laws and regulations?

Enforcement of California's laws and regulations concerning sport and commercial fishing, spill prevention and response, and other marine-related activities is critical to protecting ocean resources and maintaining sustainable marine populations and habitats. Without effective enforcement, marine management goals cannot be met.

The recent establishment of the new Marine Region created a marine-focused law enforcement function, but staffing levels need to be increased to provide full coverage along California's 1,100-mile coast. As the primary Marine Region presence in the field, marine wardens have both an opportunity and a challenge to provide education and information about marine resources and enforcement through their daily contacts with commercial and sport harvesters and the public.

GOAL #8: To improve the capability of the Marine Region to enforce commercial and sportfishing regulations. To improve these regulations and develop penalties commensurate with the severity of the violations.

A. OBJECTIVE: Increase the amount of enforcement funds, personnel, and equipment.

STRATEGIES:

 Seek additional personnel and associated essential equipment to substantially increase law enforcement personnel and provide additional large and small patrol vessels.



Game Warden Chad Alexander inspects a commercial fisherman's paperwork.

Marine Region

2) Form partnerships through Memorandum's of Understanding (MOU's) with other agencies and private organizations to supplement the Region's equipment and operating expenses.

- 3) Seek grants and gifts of funds and equipment from Federal, State, county, and city governments, private industry, and nonprofit organizations.
- 4) Seek legislative support for additional funding when new legislative mandates increase work loads or responsibilities. Identify and secure stable funding for law enforcement operations including General Fund appropriation increases.
- 5) Provide specialized technical and communications equipment, computers, vehicles, firearms, and advanced training gear for enforcement staff.
- 6) Locate and secure surplus military equipment: including boats, vehicles, and high technology equipment, through the Governor's's Office of Criminal Justice Planning, Crime Suppression Branch, Excess Property Program.
- 7) Seek specific tax appropriations (consumer tax on fishery products) for law enforcement.
- B. OBJECTIVE: Improve the Marine Region's law enforcement effectiveness.

- 1) Improve and increase personnel training.
- 2) Coordinate law enforcement response with Federal agencies, State agencies, and local government law enforcement agencies to maximize coverage.
- 3) Coordinate Marine Region law enforcement response with Department coastal regions. Develop joint task forces, enhanced enforcement operations with other law enforcement agencies, and agreements to allow concurrent law enforcement jurisdictions to assist with Marine Region law enforcement.
- 4) Improve internal communications statewide by sharing reports. Utilize existing communication networks, increase these networks, and develop new methods to share information.
- 5) Continue to utilize Self-Directed Teams. Support and institutionalize the efforts of existing teams.
- 6) Provide additional overtime funds to increase the duration of offshore patrols, night surveillance, and undercover operations.
- 7) Provide for adequate clerical and administrative support to increase efficient processing of law enforcement case loads.
- 8) Increase enforcement efforts to locate and identify point and non-point water pollution sources.
- 9) Define the boundaries of streams and rivers where Marine and Spill Response Law Enforcement efforts are required to protect marine species and habitats. Work closely with Regional and State Water Quality Control Boards.
- **C. OBJECTIVE:** Seek changes to improve the codified commercial fishing, sport fishing, and water pollution regulations.

- 1) Provide proposals to update, change, modify, eliminate or add sections (relative to commercial fishing, sport fishing, and water pollution) to the California Fish and Game Code and the California Code of Regulations, Title 14.
- 2) Meet with stakeholders to jointly develop legislative changes to the California Fish and Game Code and the California Code of Regulations. Title 14.
- 3) Coordinate Marine Region Law Enforcement Teams and Ecosystem Teams to develop regulatory changes indicated by scientific information.
- 4) Ensure timely Marine Region input to the Pacific Fishery Management Council (PFMC) regulation development to reflect field concerns about existing and emerging fisheries.
- 5) Encourage the development of higher water quality standards to protect all marine waters.
- D. OBJECTIVE: Develop and monitor fine schedules that reflect the severity of violations.



Marine Region patrol boat BLUEFIN (right) and

STRATEGIES:

- 1) Develop court liaison positions Santa Cruz zodiak LEOPARD SHARK (left). within the Marine Region to provide factual information and rationale to County District Attorneys, courts, and boards to increase fines, penalties, and forfeitures for violations of the California Fish and Game Code and the California Code of Regulations, Title 14, commensurate with the severity of the violation.
- 2) Work closely with the Department's Wildlife Protection Branch to monitor court fines and penalty payments to the Department. Provide citation information to the Branch for inclusion in the Department's Citation Data Base.
- 3) Seek legislatively mandated fines and sentences commensurate with the severity of the violation and the damage inflicted upon marine resources.
- GOAL #9: To reduce the occurrence and impacts of illegal activities by improving public education and information about the rules and regulations governing the use of marine resources.
 - A. OBJECTIVE: Educate and inform the public about the programs and goals of the Department to reduce negative impacts on marine resources.

STRATEGIES:

1) Conduct a survey of stakeholders to understand and improve the perception of Marine Region and law enforcement.

- Provide law enforcement presentations at schools, community groups, fishermen associations, environmental groups, and associated Federal and State agencies.
- 3) Train wardens to be ambassadors to stakeholders and the general public.
- 4) Provide forums with disparate user-groups to provide avenues for conflict resolution.
- 5) Develop flyers and bulletins for the general public and specific user-groups to inform them of rules and regulations, regulation changes, new regulations, interpretations of specific laws, and harmful practices to avoid.
- 6) Provide up-to-date information on law enforcement activities by maintaining active liaisons with the news media and through public information officers and direct field officer contacts.
- 7) Develop television public service announcements and informational programs, including updates on marine fishing conditions.
- 8) Work closely with the Department's Conservation Education Branch to provide for the release of public education materials.
- 9) Provide needed funding for educational and informational programs.
- 10) Develop volunteer programs to assist wardens with educational programs, equipment and facility maintenance, user group surveys, and clerical support.



Game Warden John Castro aboard commercial vessel in Southern California.



Russian Gulch abalone checkpoint game wardens with bags of confiscated abalone and their abalone-sniffing "Wonder Dog.".

How We Do It - Marine Region Foundations

The Marine Region's future must be built on sound foundations. At the center of those foundations is Marine Region leadership and effectiveness—our ability to move toward our vision, provide leadership, and maximize the effectiveness of our operations. Our employees are truly our most valuable asset, and they deserve support, opportunities for development, recognition, and encouragement to meet the challenges we face with initiative and innovation. A second critical component of our foundation is adequate funding. The marine program has seen funding decline in the face of increasingly urgent and substantial mandates for management and research. Funding was a recurring theme in our discussions with stakeholders. Finally, effective strategic and operational planning that is linked to our budget process is critical if we are to meet the challenges of the future. Together with our stakeholders, we must continue to identify the important and emerging challenges facing marine management in California and shape our activities and operational plans to meet them.

Marine Region Leadership and Effectiveness

ISSUE: What are the characteristics that will make the Marine Region an outstanding organization?

The Marine Region's ability to succeed depends first on the soundness of our own organization. A new organizational structure is in place that has brought various functions in the Department together for the first time, that emphasizes teams and engages staff in all facets of marine management, that recognizes the importance of collaboration and partnerships, and that fosters a broad, ecosystem approach. As we chart our new course, strong, effective, and visionary leadership is essential, not periodically but on a daily basis, and not only by our managers and supervisors but by all Marine Region staff. We must maximize our productivity and the effectiveness of our operations by providing effective administrative service, quality support, and opportunities for employee growth, development, and recognition. We must meet the continuing challenge of ensuring ongoing, effective communication across and among all functions and classifications. And most importantly, we must engage all Marine Region employees in making our organization an outstanding one.

GOAL #10: To ensure effective Marine Region leadership and encourage the development of leadership skills and abilities among all staff.

A. OBJECTIVE: Provide effective leadership within the Marine Region, and establish the Marine Region as a leader in marine resources management.

- 1) Have vision, develop it as the shared vision, and communicate it clearly and frequently to staff and stakeholders. Keep "the big picture" in mind.
- 2) Emphasize an ecosystem approach as the underlying principle in resource management.
- 3) Develop clear policies and statewide priorities. Set reasonable and measurable goals and objectives for consistent implementation.

- 4) Lead by example—"walk the talk".
- 5) Emphasize open and regular communication, effective listening, fairness, respect and trust, accountability and responsibility, integrity, openmindedness, a positive attitude, and professionalism.
- 6) Foster commitment to continuous improvement.
- 7) Provide leadership to Federal and State programs and on key issues. Embrace the role of principal State agency for marine programs, plans, and policies.
- 8) Take the lead in building partnerships and developing consensus on resource issues.
- 9) Clearly voice policies and positions on resource issues.

B. OBJECTIVE: Actively nurture new leaders and develop the leadership skills and abilities of all staff.

- Sponsor Marine Region staff in Department Leadership and Supervisor Academies, and other available leadership development courses and training.
- 2) Provide leadership opportunities, encourage staff to seek challenges, and develop staff leadership skills and abilities by delegating responsibility and authority to the lowest possible level.
- 3) Motivate and facilitate people to excel.
- 4) Develop and implement an award program that recognizes employee leadership within the Region and outside the Department.
- 5) Foster a supportive environment that encourages risk-taking, innovative thinking, and effective problem-solving.



Measuring black abalone on San Nicholas Island in May 1949. DFG archive photo.

GOAL #11: To provide for efficient and effective management of business and administrative services that support Marine Region staff.

A. OBJECTIVE: Provide the necessary tools and support to staff to enable them to perform their jobs effectively.

STRATEGIES:

- Decentralize routine administrative services to provide them when and where needed at each of our major area offices. Centralize those administrative functions that are more efficiently managed on a coastwide basis and/or require highly specialized knowledge and skills.
- 2) Routinely update and issue the regional administrative handbook, employee rosters, and organizational charts.
- 3) Establish a regional administrative team that includes field staff and supervisors to identify issues and provide suggestions for improvement.
- 4) Develop and use equipment inventories and appropriate replacement schedules for computers, vehicles, and major office equipment.

GOAL #12: To provide all employees with increased opportunities for growth, advancement, and recognition.

A. OBJECTIVE: Develop a comprehensive training and continuing education program that includes formal training and participation at seminars and conferences.

STRATEGIES:

- 1) Decentralize training opportunities to the northern, central, and southern California offices for easier access. Develop long-range (five-year) and annual training and education programs. Update regularly.
- 2) Set aside a portion of pooled operating expenses for training, conference and educational opportunities to supplement the Department training budget and project operating expenses.
- 3) Ensure that all staff receive "orientation" training.
- 4) Support and utilize the Field Training Officer and Field Training Biologist programs. Consider development of a Field Training Biologist academy.
- 5) Provide training on Legislative and Fish and Game Commission processes.
- 6) Provide training and cross-functional opportunities to ensure Marine Region staff awareness and understanding of other Department operations and programs.
- **B. OBJECTIVE:** Celebrate achievements by providing timely and meaningful awards and recognition.

STRATEGIES:

 Form a multi-disciplinary group to develop a detailed, comprehensive award program that includes recognition of employee accomplishments and rewards initiative, responsibility, and accountability.

- 2) Develop awards to recognize and honor our partners in resources stewardship.
- 3) Fully use existing award programs.

GOAL #13: To provide an internal communications network that allows for timely and effective transfer of information and ideas.

A. OBJECTIVE: Improve our ability to effectively communicate internally via electronic communications.

STRATEGIES:

- 1) Develop standards and recommendations for improving electronic communications.
- 2) Provide PC support, software problem-solving, and hardware servicing.
- 3) Develop a plan for placing a computer on every desk and replacing computers within appropriate time frames.
- 4) Continue to establish and refine network capabilities.
- 5) Provide resources to refine/update the Marine Region web page.
- 6) Establish a report to communicate information about significant biological findings, fisheries developments, and emerging fisheries issues.
- **B. OBJECTIVE:** Improve our ability to share information; to recognize achievements of scientific, technical, enforcement, administrative, and management staff; and to build employee relationships.

STRATEGIES:

- 1) Establish a regular edition of a Marine Region newsletter.
- 2) Invite field and administrative staff to senior staff meetings for the purpose of recognition and information sharing.
- 3) Conduct "all-staff" meetings on an annual or bi-annual basis.
- **C. OBJECTIVE**: Improve employee ability to understand, access, and use Marine Region and Department decision making processes.

- Encourage participation on ecosystem teams as a process to contribute directly to the policy development.
- 2) Establish a management plan development process that allows for input of all ecosystem team members.
- Empower employees to develop informal teams of diverse classifications to identify and make recommendations to solve local and short term issues.

Funding

ISSUE: How do we maximize fiscal resources to address marine resources issues?

Effective management of California's marine resources depends on adequate funding to conduct the data collection and research on which we base sound resource management decisions. There are clearly two paths to pursue. Internally, the Marine Region must demonstrate how existing budgetary resources are used and determine how to improve our work processes to maximize efficiency and effectiveness and to minimize costs. It is also essential that the Marine Region actively pursue those external processes (grant funding, partnerships, and legislation) that have the greatest potential to increase the funding base for understanding and managing marine resources.

A recurring theme in our surveys and focus groups concerned funding. A brief review of funding for marine programs helps put this fundamental issue, and its implications for the future, in perspective. For the greater part of this century, the Department has relied upon funding from taxes on commercial landings, permit fees, and hunting/fishing license sales. Periodic adjustments to the tax rate and fee/license schedules provided for moderate growth in staff and programs during the first half of the century. In 1950, these sources accounted for 95 percent of the Department's revenue, and 100 percent of the revenue for marine management and research. During the next 50 years, the Department continued to operate with little General Fund support. Federal funding, such as the Sport Fish Restoration Act (1950) and the Fisheries Research and Development Act (1964), provided some opportunity to expand marine programs. Contracts and reimbursements sometimes resulted in major new programs, and legislation that created dedicated accounts for studies concerning particular species also increased the funding base for the marine management component. However, dedicated accounts restrict the flexibility of managers in using these funds. Despite an increased interest in and demand for more effective marine management and research, marine funding has not increased.

While general increases in commercial landing taxes have occurred, they have been rare, since the tax rate for most species has not increased since 1972. In addition, the increases in revenue that did occur were quickly reduced by inflationary pressures because of the regressive nature of most revenue sources. The result has been a gradual decline in staffing available to the Department to support management and research activities for marine resources. In Fiscal Year (FY) 1980-81, the Governor's Budget identified 190 positions dedicated to the Marine Resources Program, with an additional 50 positions identified for Marine Law Enforcement. The new Marine Region in FY 1998-99 has 110 biological field and administrative support positions and 33 law



Marine Region research vessel R/V MAKO.

enforcement positions dedicated to marine patrol. This represents approximately a 40 percent decline from staffing levels in FY 1980-81. Additional funding and flexibility in managing funds are essential if we are to address new and emerging fisheries and move toward our vision of a broad ecosystem approach.

GOAL #14: To maximize the efficiency and effectiveness of Marine Region operations.

A. OBJECTIVE: Develop a sound budget approach for the Marine Region.

STRATEGIES:

- Beginning with Fiscal Year (FY) 1999-00, develop an activity-based budget for the Marine Region. Determine compliance with funding restrictions and develop a plan to address any misalignments of funding in future budget years.
- Beginning with fiscal year 1999-00, reconfigure work plans to manage the activity-based, programmatic budget, including goals, key results, and how results will be measured.
- 3) Examine the benefits and feasibility of establishing a Marine Resources program within the Department's overall program budget structure to more effectively address marine management needs.
- **B. OBJECTIVE**: Improve our ability to be fiscally responsible.

STRATEGIES:

- 1) Maximize availability of equipment by sharing between projects, offices, and with other regions where possible.
- 2) Plan for timely replacement of vehicles and computers.
- 3) Annually review the Marine Region budget before each fiscal year and create a contingency reserve for unforeseen supplemental requests.
- 4) Maximize the use of CalCARDS to minimize procurement processing and ensure timely vendor payment.
- 5) Establish an emergency response/contingency fund to provide adequate and timely response to disease issues. Consider using a portion of aquaculture registration fees to establish the fund.
- 6) Develop budget change proposals each year based on an evaluation of current year unmet needs and review of high priority strategic plan initiatives.
- Encourage collaboration with academia and other agencies to maximize available resources. Develop an internal reward to recognize collaborative efforts.
- 8) Develop annual reward for implementation of efficiency and cost cutting ideas and recognition for those who demonstrate fiscal responsibility.

GOAL #15: Broaden fund sources and increase funds available for managing marine resources.

A. OBJECTIVE: Increase and/or establish new fees where appropriate and improve our ability to collect existing fees.

STRATEGIES:

1) Investigate the social and economic implications of the following funding options and evaluate their viability:

- * Increase fish landing taxes.
- * Increase permit fees for most fisheries and for scientific collecting permits.
- * Extend fishery tax to all seafood sold in California.
- 2) Evaluate current charges for information services from Commercial Fisheries Information System and increase fees, if appropriate.
- 3) Evaluate the cost of providing fish businesses postage-paid envelopes to return fish receipts and consider alternative policy.
- Increase our ability to maximize commercial fish business license fees, landing tax revenues, and compliance with laws by augmenting audit and investigation capabilities.
- B. OBJECTIVE: Improve our ability to seek outside funding.

- Establish a structured grant application program for the Marine Region which identifies potential projects, available grant programs, and required time lines and application information.
- 2) Provide training in grant development and application.
- 3) Establish spending authority each fiscal year for potential grant approvals.
- **C. OBJECTIVE:** Develop alternatives to the existing funding base for marine resources management.

STRATEGIES:

- Establish relationships with nonprofit foundations. If necessary, pursue the formation of a Marine Resource Foundation to generate funding for marine management.
- Collaborate with stakeholders to develop alternative funding scenarios for managing marine resources (e.g., General Fund, electricity surcharge, oil surcharge).

Planning

ISSUE: How do we ensure that effective strategic and operational planning drives Marine Region decisions?

The world of marine resources management is changing and uncertain. We must learn to deal effectively with change and be able to help lead ourselves and others through it. Marine resources managers frequently respond to urgent, rather than important, issues and demands. Funds from traditional sources are no longer adequate for today's resources management needs, which makes effective planning and prioritization even more critical as we decide where to focus scarce funds and personnel. It has become clear that management of complex marine environments and multiple species must be ecosystem-based and approached from a broad, encompassing view.

The public is increasingly aware of, interested in, and concerned about ocean resources, which has raised expectations for marine management. Strategic planning can help us understand more clearly the environment we are operating in and provide a framework for guiding the development of strategies to respond to the challenges we face. It contributes to better decision-making, improved communications and public relations, and can lead to increased support, through both funding and partnerships. Operational planning, with a focus on measurable outcomes, can help us track how well we are meeting our annual goals and addressing strategic priorities.

GOAL #16: To ensure our ability to respond to change and to address emerging and priority issues through effective strategic and operational planning.

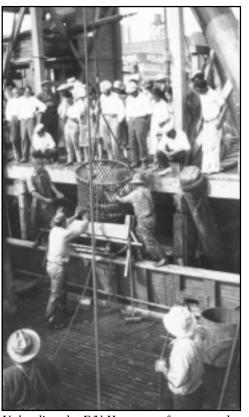
A. OBJECTIVE: Institutionalize strategic planning in the Marine Region.

STRATEGIES:

- 1) Ensure that the Marine Region strategic planning process and plan are consistent with the Department's strategic planning process and plan.
- 2) Develop an effective action plan and implementation process to incorporate strategies into annual work plans and coordinate with Federal 5-year plans. Use strategic plan priorities to restructure and/or redirect existing programs to address the most important and emerging needs and issues.
- Develop a schedule for periodically updating the strategic plan. Evaluate the plan, the planning process and strategies, and revise as appropriate. Consider stakeholder involvement.
- 4) Utilize partnerships where possible and appropriate to address strategic priorities by augmenting research, data collection, and grant proposals.

B. OBJECTIVE: Improve annual work planning to incorporate strategic priorities.

- Develop a process for incorporating ecosystem team issues and recommendations into annual work plans.
- Develop realistic and achievable goals with measurable objectives, and modify work activities to reflect changing priorities.



Unloading the F/V Hermosa of tuna caught on the high seas in August 1929. DFG archive photo.

With Whom We Do It - Our Partners and Publics

During our planning process, the Marine Region heard from many interested groups and individuals who are eager to participate in stewardship and management of California's ocean resources. Our traditional partners and customers, including commercial and recreational fishermen and industry, are seeking increased involvement in fisheries management. Other agencies and academic institutions are looking to collaborative efforts to maximize programs with limited funds, improve coordination and reduce duplication of effort, and solve complex issues. Environmental organizations are playing an increasingly active and important role in marine resources conservation and management. The public, also, is increasingly aware of the importance of biodiversity and healthy marine ecosystems.

We must foster an open and collaborative approach to marine conservation and management that engages key interest groups and involves the public in policy development and implementation, research, and management. We must coordinate effectively with other agencies and build partnerships. We must encourage a decision-making process that balances resource conservation with human needs. Improved education and outreach to all who are concerned with marine resources are critical steps.

Changing Public Attitudes

ISSUE: How will the Marine Region assess and consider California's changing demographics and diverse environmental values when developing resources management objectives?

Currently, one of nine U.S. citizens resides in California. The State's ethnic, racial, and cultural diversity has been, and is, changing dramatically as the population soars. California's new residents bring a rich variety of cultural attitudes, traditions, and experiences concerning environmental issues that may differ from those held traditionally by many Californians in the past. Our challenge as public stewards is to accurately reflect the interests and values of the people toward marine resource management, while ensuring maintenance and conservation of marine ecosystems.

GOAL #17: To manage the extractive, appreciative, and scientific uses of California's marine resources in a manner consistent with the current will and attitudes of the citizens of the State.

A. OBJECTIVE: Develop and maintain an effective program that assesses and considers the attitudes and values of the agencies, organizations, and people who have a stake or interest in marine resources management.

STRATEGIES:

1) Conduct public workshops and surveys of our stakeholders on current issues and attitudes regarding resources management.

- 2) Use professional economists and sociologists to help identify the needs and interests of our diverse constituency. Develop a plan to survey appropriate stakeholders on fishery-related socioeconomic issues.
- 3) Consider the socioeconomic implications of individual transferable quotas (ITQs) and permit transferability, in general, as mechanisms to keep fisheries participation equitable and to increase resource stewardship.
- 4) Clarify and simplify fishery regulations. Make an effort to provide multiple language translations and outreach to affected minority communities.
- 5) Increase emphasis on hiring, promoting, and deploying professional staff with appropriate scientific and technical expertise.
- 6) Focus attention in areas where changes are developing most rapidly (e.g., southern California) to anticipate problems and test solutions for addressing issues arising from increasing populations.
- 7) Undertake an internal dialogue in the Marine Region about the role of public attitudes and values in marine policy development to address questions such as who do we serve—the resources or the public?
- 8) Identify clear outreach priorities to track societal trends.
- 9) Regularly poll constituents to assess their understanding of, as well as position on, controversial issues.
- 10) Hold town hall and/or focus group meetings throughout coastal areas to better understand trends in public attitudes and concerns.
- 11) Increase Marine Region interactions with user groups through informal contacts and attendance at user-group functions.
- **B. OBJECTIVE**: Consider and incorporate relevant demographic and attitudinal information into program actions.

- Develop a process for resources management decision making that emphasizes incorporating a diversity of inputs and views, evaluation of multiple options, reliance on accurate and adequate scientific information, and a risk assessment approach. Use ecosystem teams to make management decisions with periodic Department and public review.
- 2) Increase diversity in Marine Region staff to better represent California's population and facilitate communication with the public.
- 3) Develop methods for communicating our vision and mission and improving our internal "attitude".
- Review where staff are deployed in light of changing demographics in California, and deploy staff coast wide to most effectively meet Marine Region needs.
- 5) Develop community representatives to facilitate communication with and provide information to our culturally diverse constituency.
- 6) Encourage stakeholder "ownership" of marine regulations by increased use of stakeholder advisory committees to craft regulations and penalties.
- 7) Communicate results of good science to the public to gain support and understanding of management decisions for resource sustainability.

Public Policy Framework

ISSUE: How do we implement the Marine Region's stewardship responsibilities while being responsive to public interests and concerns?

As a State agency, the Department and the Marine Region act as the trustee of natural resources for California's citizens. The public has an obligation and right to make their needs and desires known, as well as to become part of the decision-making process. The Marine Region has a responsibility to provide information, expertise, and direction to decision makers and the public to ensure resource sustainability. We openly solicit public involvement, participation, and support. It is imperative that the Marine Region balance public needs and wants with fish and wildlife needs and sound science to safeguard marine ecosystems and provide for sustainable resources. We must ensure healthy marine resources and habitats not only for the people who presently live in California, but for those who are to come in the future. This is the true nature of stewardship and how we see our role.

GOAL #18: To develop and use a process that considers human needs when making marine resources conservation decisions.

A. OBJECTIVE: Develop a decision-making process that incorporates varied perspectives and sound science into marine resources management by 2001.

STRATEGIES:

- 1) Adopt an ecosystem management philosophy that places marine resources conservation and stewardship as the highest priority.
- 2) Bring the best possible science-based recommendations to the management process.
- 3) Clearly identify the resource implications of science-based recommendations for the decision makers.
- 4) Encourage research that will provide necessary socioeconomic data for use in the decision making process.
- 5) Encourage decision makers to consider intrinsic values of resource conservation as well as consumptive or economic values.
- 6) Maintain a long term or future focus.
- 7) Maximize the use of advisory groups in all aspects of the management process.
- 8) Increase efforts to involve the general public in the management process.

B. OBJECTIVE: Raise the awareness of Fish and Game Commissioners, Legislators and legislative staff, the Resources Agency, and the Governor concerning critical marine resources issues.

STRATEGIES:

1) Include Commissioners in team meetings, advisory committee meetings, and training sessions.

- 2) Provide a list of Marine Region experts (contacts) for legislative offices and Commissioners.
- 3) Provide opportunities for legislators and Commissioners to interact with field biologists and wardens.
- 4) Develop easily obtainable reference materials, especially in-house research reports.
- 5) Provide the Governor's office with briefings on opportunities and needs.
- **C. OBJECTIVE**: Determine the best possible management authority for California's marine resources by 2002.

- 1) Explore alternatives to legislative control of commercial fisheries management.
- 2) Explore transfer of management authority to the Director for certain fisheries and/or marine resources.

Coordination and Outreach

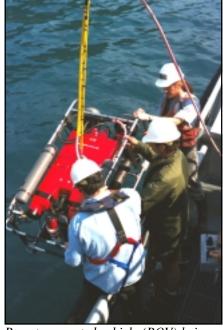
ISSUE: How will the Marine Region most effectively coordinate with its stakeholders and partners, as well as educate the public about responsible resource use and conservation?

Marine resources and their habitats are critical components in the lives of many Californians. Marine resources management and habitat protection programs in the Marine Region would clearly benefit from greater involvement by a wide range of groups and individuals (such as sport anglers and commercial fishermen, environmental organizations, marina and port operators, coastal development interests, seafood processors, and public interest groups) that are closely affected by our decisions. Additionally, the public at large has a significant stake in Marine Region program outcomes in terms of the State's biodiversity, conservation ethic, and overall quality of life. Educational and other outreach programs conducted by the Marine Region will help engage a more responsible and supportive citizenry.

As part of the Department of Fish and Game, the Marine Region must coordinate and collaborate closely with other regions and programs to provide effective communication, information sharing, and organized approaches to resource management and enforcement.

- GOAL #19: To achieve Marine Region public engagement and resource stewardship mandates through increased coordination, as well as more inclusive resources management and decision making practices.
 - A. OBJECTIVE: Demonstrate explicit, quantifiable efforts to coordinate effectively and/or engage in cooperative work with those agencies, organizations, and individuals that have a stake or interest in marine program outcomes.

- Create an advisory panel consisting of State agencies within the Resources Agency and other select organizations and individuals to assist in overall regional planning and program and policy development.
- Solicit input from a greater range and number of stakeholders to ensure broad input in the formulation of natural resources policies and regulatory measures.
- Develop, if appropriate, an advisory group of stakeholder representatives to assist staff in developing and reaching team, project, or program goals and objectives.
- 4) Establish clear lines of authority and responsibility in marine and estuarine environments among other State, Federal, and local agencies. If necessary, legal instruments (e.g., Memoranda of Understanding or Agreement) will be used to codify decisions.
- 5) Increase coordination efforts with State, Federal, and local regulatory and resource agencies regarding review, evaluation, and response to marine development proposals and water quality plans.
- 6) Encourage and provide support for staff to attend professional conferences, seminars, symposia, and workshops, as well as publish scientific and technical articles in peer reviewed periodicals.
- 7) Provide staff names, office phone numbers, descriptions of individual areas of responsibility, and organizational charts to principal stakeholder groups.
- 8) Develop and maintain an updated mailing list of principal stakeholders for information distribution.
- 9) Establish closer liaison with academic and research-oriented institutions to promote conservation education, improve scientific discourse, and recruit temporary and permanent staff.
- 10) Work more closely with local planning agencies on issues relating to CEQA and other environmental concerns.
- 11) Attend user group, environmental group, and other Federal, State or local agency meetings at least annually to cultivate increased understanding of concerns and activities and to listen.
- 12) In concert with License and Revenue Branch, post changes to commercial and recreational fishery regulations on the Department web site. Notify appropriate media and stakeholder contacts as soon as practical.
- **B. OBJECTIVE:** Ensure effective coordination with Department regions, branches, and divisions.



Remote operated vehicle (ROV) being launched at Punta Gorda Ecological Reserve by Mike Prall, Tim O'Donnell, and Jerry Mendes (1999).

- 1) Encourage coastal regions, Central Valley Bay-Delta, and division staff to participate on ecosystem teams as appropriate.
- 2) Coordinate with coastal region and Central Valley Bay-Delta environmental services and field personnel regarding policy and issues that affect coastal and estuarine resources and habitats.
- 3) Participate, where appropriate, in coastal region and Central Valley Bay-Delta long range habitat conservation planning efforts including wetlands, estuarine resources, and watershed management.
- 4) Coordinate with divisions regarding policy and regulatory issues that involve marine resources.

GOAL #20: To improve the Marine Region's public educational programs and activities to encourage responsible resources use and conservation.

A. OBJECTIVE: Establish an expanded program of public outreach that educates broad-based communities on marine resources and habitat issues, and builds trust and confidence in our management decisions.

- Present and distribute timely and accurate information to stakeholders and other interested parties regarding resources issues of concern, by providing:
 - * A quarterly newsletter
 - * A detailed plan for staff contributions to the Marine Region website, ensuring timely and useful information.
 - * An annual report on accomplishments and fishery overviews, in print form and on the Marine Region website.
- 2) Where appropriate, conduct an "Open House" at selected facilities.
- 3) Develop a schedule of workshops, town hall meetings, and informational presentations designed to discuss important marine resource issues such as new regulations and legislation, sampling and data gathering needs, and research program progress.
- 4) Consider sponsoring a biannual ocean's conference on suitable topics such as marine monitoring.
- 5) Develop a statewide program for providing professional staff time to academic institutions (e.g., secondary schools), environmental organizations, commercial and recreational fishing associations, or public interest groups for the purpose of discussing marine resources management and research, habitat protection, and employment and career opportunities. Develop suitable materials (e.g., videos, informational leaflets, posters, etc.) and training.
- 6) Cultivate improved working relationships with the news media to provide accurate information to the public and develop a better image for the region and Department.
- 7) Develop cooperative arrangements with museums, aquaria, parks, and other organizations to promote marine conservation education through

- static displays, cooperative exhibits, and printed information on marine resources and Department activities.
- 8) Increase Marine Region use of volunteers, including commercial and recreational fishers.
- Seek General Fund money and other sources of revenue for public outreach activities, particularly in urban environments.
- Ensure that frontline staff (telephone/front counter staff, field technicians, wardens, and biologists)



Abalone processing. DFG archive photo.

- in field offices are provided complete and up-to-date information related to in-season regulatory changes and recently enacted marine legislation.
- 11) Consult with the recreational fishing community on Sport Fish Restoration Act program direction and activities.
- 12) Assign a marine enforcement designee to each "full service" field office to respond to public inquiries about regulations, permits, and other enforcement policy issues.
- 13) Develop links to websites of related regulatory agencies to guide the public to all relevant regulatory requirements related to a proposed activity or subject.
- 14) Initiate a workshop for appropriate state agencies on the feasibility of an ocean information system website that would represent a matrix of state agency regulatory information.
- 15) Continue contributions to Outdoor California and creative funding opportunities to reprint notably popular articles.
- 16) Annually identify a key target group(s) for a focused information venture, then aggressively pursue this effort to make a positive impact.
- 17) Collaborate with other organizations for cooperative outreach. Disseminate our educational information where possible.
- 18) Acknowledge the importance of educating commercial and recreational users on ecosystem management, and management tools and concepts, by devoting additional attention to this area.
- 19) Establish a manager-level coordination position to facilitate the implementation of these strategies.
- 20) Prepare a descriptive list of prepared static displays and slide presentations for public events, with a key contact for each one. Encourage staff to openly share such materials within the Department.
- 21) Involve local and regional governmental agencies in ecosystem team discussions on significant wildlife and regulatory issues.

GOAL #21: To provide user-friendly and accurate marine fishing regulations.

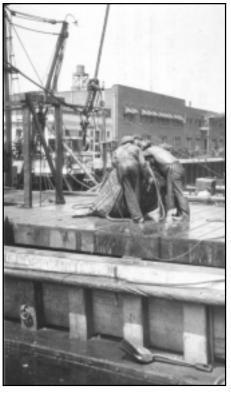
A. OBJECTIVE: Produce complete, accurate, easy to understand, and updated regulations on an annual basis.

- Establish technical advisory groups of subject matter experts from commercial, sport, and environmental organizations and regulatory agencies to participate in the development of new marine regulations.
- 2) Involve the public and affected stakeholders in regulation review prior to the approval of new regulations.
- 3) Establish a regulations review team to systematically review all existing Marine Region regulations for clarity, consistency, and ease of use (for internal and external customers). Modify unclear or outdated regulations.
- **B. OBJECTIVE**: Coordinate marine resources management with Federal, neighboring states and countries, and other State agencies to reduce complexity and overlap.

- 1) Create a multi-agency task force to identify areas of overlapping responsibility for management.
- 2) Develop priority list of responsibility areas to be simplified, shifted, or reassigned.
- 3) Work to clearly delineate Federal and State jurisdiction and share with the public.
- 4) Look to other states and countries for possible management processes that promote sustainability and simplification .



Brailing tuna from purse seine to boat. DFG archive photo.



Unloading tuna at Terminal Island canneries. DFG archive photo.

Implementation Process

A strategic plan that includes a well-conceived implementation process reduces the risk that key elements of the plan (strategies) will not be enacted in an effective or timely fashion. The Marine Region is committed to developing an implementation process that accomplishes the following:

- Is consistent with the mission and vision of the Marine Region;
- Achieves the goals and objectives set forth in the Strategic Plan;
- Fully involves Marine Region staff and external stakeholders;
- Rapidly and efficiently implements those strategies that are the highest priority:
- Has a mechanism that identifies and solves problems that invariably arise when operational changes are made;
- Utilizes a periodic review process that accurately assesses success at all levels and allows for appropriate mid-course corrections.

Recommended actions to be taken by the Marine Region to create a successful implementation process include the following:

- Development of a Strategic Plan Implementation Team that includes members of the existing Strategic Planning Team as well as Marine Region management and staff. The Implementation Team procedures should also include a mechanism to coordinate with external stakeholders.
- Documentation of the Marine Region's current programs, services, projects, funding, etc.
- Prioritization of strategies, as well as existing programs, services, and projects, based on criteria established by the Implementation Team.
- Development of an approved action plan for each strategy in the Strategic Plan. Included in these action plans will be workload assignments, work completion schedules, and progress reports.
- Coordination of strategy implementation with the Annual Program Component Work Planning Process.

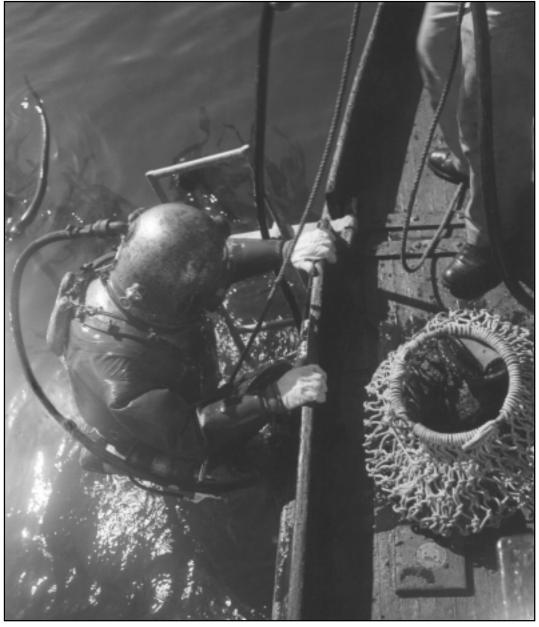
It will be essential for the Implementation Team to prioritize strategies and create individual action plans for both strategies and objectives in order to meet the goals identified in the Plan. In order to frame the strategies and objectives for prioritization and action plan development, the Implementation Team will consider whether the effort: 1) is currently under way; 2) can be accomplished with existing funding; 3) will require a Budget Change Proposal; and 4) requires legislation for funding or authority.

Clearly, criteria for prioritization will include whether or not the program is new or on-going, what the impacts will be on marine resources, habitats, or stakeholders, and what resources will need to be allocated. In creating individual action plans for strategies and/or objectives, it is strongly recommended that the following questions be answered:



Retired biologist Ken Mais with plankton net. DFG archive photo.

- What specific actions must be taken to implement the strategy in a timely manner?
- What are the expected results and milestones? There is a strong need for quantifiable outcomes.
- Who is responsible and what are their respective roles and responsibilities?
- When will the actions be taken and what is the expected delivery date?
- What resources will be required and where will they be obtained?
- How will action plan implementation be reviewed and monitored, and how will accountability be assured?



Hard hat diver. DFG archive photo.

Glossary

Bay and Estuary Ecosystem: Ecosystem consists of those plant and animal communities found resident during some part or all of their life cycle in semi-enclosed bodies of salt and brackish water, generally not influenced by significant wave action, and inshore to the extent of the tidal penetration of salt water.

Benthi-pelagic: Deep depths or bottom of the open ocean.



Juvenile garibaldi. Outdoor California photo.

Bycatch: Any species or species complex that was not intentionally targeted but was captured as a result of fishing.

CalCARD: A unique VISA card system used by state agencies to provide small purchase credit cards to state employees who are authorized to procure goods.

CEQA: The California Environmental Quality Act requires California's public agencies to conduct reviews to identify and disclose the environmental effects of their actions, to avoid significant environmental effects where feasible, or to minimize or mitigate effects where feasible. CEQA applies to projects to be undertaken by or requiring the approval of state and local government agencies.

Council: The Fishery Conservation and Management Act of 1976 (reauthorized in 1996 as the Magnuson-Stevens Fishery Conservation and Management Act) established regional fishery management councils to conserve and manage fishery resources found off the coasts of the United States through fishery management plans. The Pacific Fishery Management Council, one of eight regional councils, manages fisheries off the west coast of the United States.

Department of Fish and Game: Established in 1927 as the Division of Fish and Game. Currently, the Department has 7 field regions (of which the Marine Region is one). There are 4 policy and program coordination divisions: Habitat Conservation Division (HCD), Inland Wildlife and Fisheries Division (IWFD), Spill Prevention and Response Division, and Administration and Program Support Division. There are five branches in the HCD and four branches in the IFWD.

Ecosystem: The complex of a community of organisms and its environment functioning as an ecological unit in nature.

Ecosystem Management: Management actions guided by explicit goals and policies, made adaptable by monitoring and research, and based on our best understanding of ecological interactions and processes necessary to sustain ecosystem composition, structure and function. (Adapted from Jennings and Kaiser, 1998., Effects of Fishing on Marine Ecosystems, Adv. Mar. Bio. Vol 34).

Ecosystem Principles

- The ability to predict ecosystem behavior is limited.
- Ecosystems have real thresholds and limits which must not be exceeded.
- Once thresholds and limits have been exceeded, changes can be irreversible.
- Diversity is important to ecosystem functioning.
- Multiple scales interact within and between ecosystems.

Marine Region

• Components of ecosystems are strongly linked.

- Ecosystem boundaries are open.
- Ecosystems change with time.

Elasmobranch: Any of the subclasses of cartilaginous fishes that have five to seven lateral to ventral gill openings on each side and that comprise the sharks, rays, skates and extinct related fish.

Estuary: A semi-enclosed body of water with an open connection to the sea. Typically, there is a mixing of sea and fresh water, and the influx of nutrients from both sources results in high productivity.

Fish and Game Code 1700: Section of the Fish and Game code which addresses the conservation of aquatic resources.

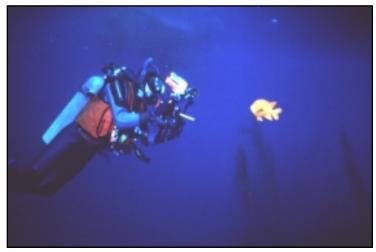
Fishery: The occupation or industry of taking fish or other sea life.

Habitat: The place or environment where a plant or animal naturally or normally lives and grows.

Invertebrates: Animals lacking a spinal column.

Marine Life Management Act of 1998 (AB1241): This act effected the most significant changes to management of California's ocean resources in 50 years. The act transferred authority for management of emerging fisheries from the legislature to the Fish and Game Commission, established requirements for developing fishery management plans, focused on sound science as a basis for management, and emphasized collaborative approach.

Marine Region: Established in November 1997, the Marine Region is responsible for both policy and operational issues within the State's marine jurisdiction. The region was created to improve marine resources management by incorporating critical law enforcement functions, fisheries and habitat programs, the field activities of the Office of Spill Prevention and Response, environmental review, and water quality monitoring into a single unit.



Diver and garibaldi. Outdoor California photo.

Marine Region Implementation Plan: A plan developed by a task force convened in 1997 by Director, Department of Fish and Game, Jacqueline E. Schaefer and chaired by DeWayne Johnston to develop recommendations for the establishment of a new Marine Region.

Nearshore Ecosystem: Ecosystem that consists of those natural communities found along the coast from the highest extent of the tide inshore, not including bays and estuaries, to the depth of light penetration offshore (about 100 to 150 m) on the continental shelf.



Sea star and nudibranch. Outdoor California photo.

Offshore Ecosystem: Ecosystem that consists of those natural communities found in the open and deep ocean environments beyond the depth of light penetration offshore (about 100 to 150 m) on the continental shelf and including the continental slope (which begins at about 200 to 300 m). This includes the pelagic and benthi-pelagic realms.

OSPR: Office of Spill Prevention and Response.

Organization established within the Department of Fish and Game pursuant to the Lempert, Keene, Seastand Oil Spill Prevention and Response Act of 1990. Office is lead state agency for Spill Prevention and Response Act.

Pelagic: Living or occurring in the open ocean.

Pacific Fishery Management Council: West coast regional council consisting of the states of California, Oregon, Washington, and Idaho and having authority over fisheries in the Pacific Ocean seaward of those states. The PFMC has 14 voting members, including 8 appointed by the U.S. Secretary of Commerce, with at least one from each state, and including one from an Indian tribe with federally recognized fishing rights from one of the states; the designated state

official responsible for marine fishery management in each state; and the regional director of the National Marine Fisheries Service. There are 4 nonvoting members, plus one additional nonvoting member from Alaska on the PFMC. The PFMC has fishery management plans in place for ground-fish, ocean salmon, and coastal pelagic species, and is developing a fishery management plan for highly migratory species.



Patrol boat YELLOWFIN at anchor.

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